THE CONTROVERSIAL CLAIM OF RESEARCH PRIORITY AS
RELATED TO THE DISCOVERY OF SURGICAL ANESTHESIA

A THESIS
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DEDICATION

To my wife,
Robelia Victrum
For her inspiration, encouragement,
Assistance, and endurance
To my two children,
Vanessa and Beverly Larseine
To my mother,
Mrs. Mattie Lou Victrum
For devotion and continuous inspiration
To my father,
Mr. Linus Victrum
For his faith and encouragement

O. C. V.
ACKNOWLEDGEMENTS

The writer wishes to acknowledge with gratefulness, his sincere thanks to the many persons who have in any way made it possible for him to complete this research. Especially does he express gratitude to his major advisor, Dr. Laurence E. Boyd, for helpful criticisms, and patience given during this research. Thanks are due Dr. Linwood D. Graves, co-advisor, for his constant encouragement and help.

He also desires to acknowledge his indebtedness to Mrs. Willard Power of the University of Georgia library, Mr. Billy N. Elder, Ordinary, Jackson County, Georgia, and Mrs. Mamie Escoe, Director, Crawford W. Long Historical Museum, for their cooperation in this study.

O. C. V.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>DEDICATION</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>iiii</td>
</tr>
</tbody>
</table>

Chapter

## I. INTRODUCTION

- **Rationale** .................................................. 1
- **Evolution of the Problem** .................. 3
- **Contribution to Educational Knowledge** .... 3
- **Statement of the Problem** ................. 4
- **Limitations of the Study** ................... 4
- **Purpose of the Study** .......................... 4
- **Definition of Terms** ........................... 5
- **Locale and Period of the Study** .......... 5
- **Method of Research** ............................. 5
- **Subjects and Materials** ..................... 6
- **Procedure** ........................................... 7
- **Collection of Data** ............................. 8
- **Survey of Related Literature** ............. 8
- **Summary of Related Literature** ............ 13

## II. PRESENTATION AND ANALYSIS OF DATA

- **Organization and Treatment of Data** ........ 15
- **The Controversy in Perspective** ............ 15
- **Dr. Crawford W. Long's Case** ............... 23
  - **Educational Background** ..................... 23
  - **Proofs and Claims** ............................ 23
- **Dr. William Thomas Green Morton's Case** .... 32
  - **Educational Background** ..................... 32
  - **Proofs and Claims** ............................ 33
- **Dr. Charles T. Jackson's Involvement** ...... 41
  - **Involvement of the United States Congress** 46

## III. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

- **Recapitulation of Theoretical Framework of the Research** ........ 50
- **Rationale** ........................................... 50
TABLE OF CONTENTS—Continued

Chapter

III. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Evolution of the Problem ........................................ 52
Contribution to Educational Knowledge .......................... 52
Statement of the Problem ......................................... 53
Limitations of the Study .......................................... 53
Purpose of the Study ............................................. 53
Definition of Terms .............................................. 54
Method of Research ............................................. 54
Subjects and Materials .......................................... 54
Summary of Related Literature ................................. 55
Summary of Findings ........................................... 56
Conclusions ....................................................... 57
Implications ...................................................... 58
Recommendations ................................................ 58

BIBLIOGRAPHY .................................................. 59

VITA .............................................................. 61
CHAPTER I

INTRODUCTION

Rationale.—The history of the discovery of surgical anesthesia dates back to the nineteenth and early twentieth centuries. Before that time, crude methods such as beating a patient senseless or strapping him to a chair while being held by four or five strong men were used. Few, if any, persons today can picture a surgical operation without anesthesia. It was too ghastly and heart-rending. If specific drugs were used they had but little effect so far as pain relief was concerned. "A full-blooded individual might be bled in an effort toward leading him to unconsciousness. If he had not fainted, as patients sometimes did, he probably would be praying that the operation be hurriedly finished or even stopped. He would implore and threaten and might escape if not firmly secured. But the operator could not faint and must finish what he had set out to do." It is inconceivable to us in the enlightened age that men as surgeons of the past whose names have been handed down with reverence could be capable of operating under these circumstances.¹

The controversy over the discovery of anesthesia has been given much consideration in the medical annals. In 1920, the Electors of

of the New York University Hall of Fame voted a place for Dr. William T. G. Morton as the discoverer of Anesthesia. Dr. William H. Welch wrote a letter in long hand, in which he said that he believed his Ether Day Address of 1908, supporting Morton, was a strong factor in Morton's election. Dr. Welch, who himself was one of the electors, stated that he had sent a copy of his address to each of the others. What information they possessed concerning other claimants is not known.¹

In his paper, Dr. Welch spoke of Crawford Long as follows:

While the accepted rule that scientific discovery dates from public demonstration is a wise one, we need not in this instance withhold from Dr. Long the credit of independent and prior experiment and discovery, but we cannot assign to him any influence upon the historical development of our knowledge of surgical anesthesia or any share in the introduction to the world at large of the blessings of this matchless discovery.²

While advocates of Crawford Long as the discoverer were disappointed by the action of the electors, it provided the needed stimulus for trying to establish his rights to the coveted honor. In 1921, at a sectional meeting of the American College of Surgeons, in Atlanta, Georgia, at the suggestion of Dr. E. C. Davis, Chairman of the program committee, a paper on Long and his work was read and published, culminating in the formation of the Crawford W. Long Memorial Association. In 1926, through the activities of this organization in sponsoring public subscriptions, Long's statue was

¹ W. H. Welch, Consideration of the Introduction of Surgical Anesthesia (Boston: The Barta Press, 1908), p. 79.
² Ibid.
erected in Statuary Hall, in the National Capitol, where it had been voted a place by the Georgia Legislature in 1902.¹

Dr. Joseph Jacobs, a prominent Atlanta, Georgia pharmacist observed:

They learned about anesthesia from Crawford Long and no one should share in the introduction to the world at large the blessings of this matchless discovery.²

Evolution of the Problem.—The problem involved in this study grew out of the interest of the writer in Dr. Crawford Long's status on the controversy which has arisen as to the first pioneer in the use of surgical anesthesia. Further to fulfill one of the major requirements of the course in Methods of Educational Research, the writer decided to do his Master's research on the controversial issue of who performed the first painless operation by the use of an anesthesia.

Contribution to Educational Knowledge.—A study of this kind is valuable in ascertaining for the unprejudiced reader to what degree Dr. Crawford W. Long or Dr. William T. G. Morton is entitled to be acclaimed the discoverer of surgical anesthesia. Therefore, it is hoped that this study will do the following:

1. Add to the amount of material already in the field.
2. Elicit further studies of controversial issues.
3. Serve as a historical account of the controversial claims

¹ The Atlanta Constitution (January 17, 1921), p. 5.
to research priority in the field of surgical anesthesia.

**Statement of the Problem.**—The major problem involved in this research was to provide documentary evidence substantiating the opposed claims of Dr. Long and Dr. Morton to the prior discovery and use of Ether as an anesthetic in surgery.

**Limitations of the Study.**—The major limitation of this study was the extent to which unbiased primary and secondary sources of information were available to the researcher; for this researcher's purpose was to ascertain and emphasize the substantiated contribution made by each subject of this study to the pioneering use of anesthesia for medical purposes.

**Purpose of the Study.**—The major purpose of this study was to give an account of the controversial claim between Dr. C. W. Long and Dr. W. T. Morton to research priority to the use of ether as a surgical anesthesia.

More specifically, the purposes of this study were:

1. To determine insofar as possible the exact first and/or dates on which each of the two men used anesthesia during painless operational procedures.

2. To determine insofar as possible who were the documented eye-witnesses to the first-time use of anesthesia by Dr. Long and Dr. Morton, respectively.

3. To determine, in each case, the course of events leading up to Dr. Long's and Dr. Morton's immediate achievement of anesthesia employment.

4. To determine as nearly as possible, the primary sources which support the claims of Dr. Crawford Long and Dr. William Morton regarding the discovery of ether anesthesia.

5. To determine conclusions, implications and recommendations as warranted by the researcher.
Definition of Terms.—For the purpose of this study, the following terms connote the respective meanings indicated:

1. "Priority" refers to a first right established in reference to date and time of performance.

2. "Anesthesia" refers to partial or total loss of physical sensation by the injection of an anesthetic drug with reference to dental and medical operative procedures.

3. "Res gestae" refers to things done: that especially; the facts that form the environment of a litigated issue, and/or admissible in the evidence.

Locale and Period of the Study.—All activities connected with this research were centered in or directed from the home of the researcher in Commerce, Jackson County, Georgia during the school year, 1963-1964. This city is situated 20 miles northeast of Athens, Georgia on Highway 129, 20 miles southeast of Gainesville, Georgia on Highway 28. This city lies about 80 miles northeast of Atlanta, Georgia.

Dr. Crawford W. Long, according to record, first used ether as a surgical anesthesia in Jefferson, Jackson County, Georgia. This city is situated on Highway 129, 18 miles northeast of Athens, Georgia, and 22 miles southwest of Gainesville, Georgia on Highway 23. This city lies about 62 miles northeast of Atlanta, Georgia.

The record is that Dr. William T. G. Morton first used ether as a dental anesthesia in Boston, Massachusetts. This city is situated on the Boston Harbor, an arm of the Massachusetts Bay at the mouth of the famous Charles River. The city lies about 230 miles northeast of New York City and about 140 miles northeast of Washington, D.C.

Method of Research.—The Historical-Documentary Method of
research was used to gather the data necessary to the pursuit of this study.

Subjects and Materials.—The subjects and materials involved in this study are as described under the appropriate captions below:

I. Subjects

A. Dr. Crawford W. Long - Born at Danielsville, Georgia, November 1, 1815. Long was the son of a planter, merchant and State Senator. His father, James Long, was a close friend of William H. Crawford who was perhaps Georgia's most noted statesman. It was for him that Crawford Long was named. Crawford Long, after attending Danielsville Academy, entered Franklin College, now the University of Georgia, at the age of fourteen and secured his Master's degree in 1835. His room-mate was Alexander H. Stephens, who was later to serve as Vice President of the Confederacy.

B. Dr. William T. G. Morton - Dr. Morton was born in Charlton, Massachusetts in 1819, being therefore four years younger than Long. Morton graduated in dentistry from the Baltimore College of Dental Surgery, the world's first dental school, founded in 1840.

C. Dr. Charles T. Jackson - Dr. Jackson was born in 1805 in the historic town of Plymouth, Massachusetts. He first studied medicine under two distinguished tutors, Dr. James Jackson and Dr. Walter Channing and graduated M.D. with honors, from Harvard in 1829.
II. Materials

A. The writer contacted the Jackson County, Georgia Courthouse Clerk of Courts office and secured primary documents and affidavits of Dr. Long's supporting his claims to research priority.

B. The Georgia Historical Museum, located in Jefferson, Jackson County, Georgia was helpful in obtaining authentic letters, and the account ledgers of Dr. Crawford W. Long.

C. The writer was able to obtain affidavits and statements supporting the claims of Dr. William T. G. Morton from a book written by Dr. Morton entitled, *Statements, Supported by Evidence of W. T. G. Morton, M.D. on His Claims to the Discovery of Ether*, Washington, D.C., 1853.

D. The Congressional Reports for Dr. Morton were secured from the Index to House Reports: Second Session, Thirtieth Congress, 1848-1849. This book was obtained from the University of Georgia library.

E. The writer was able to obtain the role of Dr. Charles T. Jackson in the discovery of ether from a book written by Dr. Horace Wells, *History of the Discovery of the Application of Nitrous Oxide Gas, Ether and Other Vapors to Surgical Operations*, Hartford, 1847.

Procedure.—The major purposes of this research were achieved through the following procedural steps:
1. The researcher obtained the use of the University of Georgia Library.

2. The related literature pertinent to this study was reviewed, summarized and presented in the finished thesis copy.

3. The Jackson County, Georgia Courthouse Clerk of Courts office was contacted to secure its cooperation and to orientate the personnel as to the nature and scope of the proposed research problem.

4. The data derived from documents and affidavits examined were systematized and interpreted as dictated by the nature and purpose of the research.

5. The findings and conclusions which were derived from the data are presented in the final thesis copy.

Collection of Data.—In order to substantiate the documentary treatment for this research, all obtainable documents were examined, and recorded with the genuineness and accuracy as found.

On September 7, 8, and 9, 1963, respectively, the Jackson County Clerk of Courts office, the Georgia Historical Museum and the University of Georgia Library were contacted and provided the needed materials which constituted the sources for the data of this research.

Survey of Related Literature.—Even today, with our perfected methods of anesthesia and surgical techniques, surgeons occasionally meet patients and their families who shrink from hospitals and surgical treatment. Such fear of surgery is a survival of the old stories from the days of surgery without anesthesia.¹

A London hospital had a large ball. It was used to call all

¹ Shafer, op. cit., p. 148.
nurses and doctors not otherwise engaged to rush in and assist in holding a patient about to be submitted to operation. Before the general use of artificial lighting, operation rooms were usually placed on the top floor so that the skylight could be used to best advantage. In some hospitals, it was said that the operation room was located as high as possible not because of lighting difficulties but so that the yells and imprecations of the patients undergoing operative surgery could not reach the ears of the rest of the occupants of the institutions.¹

Many factors limited the number of surgical operations performed in these days. Lack of successful anesthesia and measures to prevent infections barred the study of living pathology so that the profession could not know of the great fields of human disease which could be relieved by surgical treatment. When operating was done, as Homans writes:

> For all patients, the experience entailed severe nervous shock and a long period of depression to follow, conditions which interfered seriously with the healing of operative wounds, and greatly protracted convalescence.²

Luckily, and necessarily, operations before the introduction of anesthesia were few and were attempted only as a last resort. During the five years immediately preceding anesthesia, only 18¹ operations, about three a month, were performed at the Massachusetts Institute of Technology.

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General Hospital, a surprising total for such a large institution. These were confined chiefly to the surface of the body, including excision of tumors, amputation of limbs and breasts, ligations, plastic operations, herniotomies and lithotomies.¹

About the only operations performed over the world during the first half of the nineteenth century were trephining, which is perforating the skull so as to remove a portion of a bone, probably the oldest of all, as shown in prehistoric skulls, thoractomy, an operation performed to remove the thoracic duct by Hippocrates. Most of the operations which have been mentioned were performed in ancient times as well as the nineteenth because of the lack of effective anesthesia, surgery had but little progress in the thousands of years. As the advent of anesthesia drew nearer, surgeons were becoming bolder and operating frequently, thus increasing the demand for means to prevent pain.²

A significant factor in postponing the introduction of successful surgical anesthesia was the lack of knowledge of the possibilities of operative surgical treatment. Such knowledge gradually began to dawn after anesthesia became established. Formerly, operating without anesthesia seemed satisfactory enough for amputations and the other operations of the day, the profession and the public had become so long accustomed to it. Had it been recognized that the great cavities of

¹ Ibid., p. 1130.
² Ibid., p. 1132.
the body could safely be invaded with the patient asleep and relaxed, more strenuous efforts would probably have been put forth to discover a satisfactory anesthetic and such a discovery might have been made at an earlier date.¹

Today there is some disagreement among the experts as to who is the father of surgical anesthesia - Dr. Crawford Long or Dr. W. T. Morton.

Dr. Crawford Long, according to record, first used ether as a surgical anesthesia in Jefferson, Jackson County, Georgia in 1842. This city is situated on Highway 129, 18 miles northeast of Athens, Georgia and 22 miles southwest of Gainesville, Georgia on Highway 23. This city lies about 62 miles northeast of Atlanta, Georgia.

The record is that Dr. William Morton first used ether as a dental anesthesia in Boston, Massachusetts in 1846. This city is situated on the Boston Harbor, an arm of the Massachusetts Bay at the mouth of the famous Charles River. The city lies about 230 miles northeast of New York City and about 240 miles northeast of Washington, D. C.

James Y. Simpson of Scotland introduced chloroform in 1847. Much of the credit for the later development of chloroform and ether goes to an English physician, John Snow. Snow is generally regarded as the world's first anesthesiologist. He wrote two books on the subject which are considered "must" reading for students. And, in 1853, by anesthetizing Queen Victoria shortly before she gave birth to her

¹Ibid., p. 1134.
seventh son, Snow struck an important blow for this new branch of medicine. Until this time, many people had opposed anesthesia on the grounds that it went against the teachings of the Bible. But when the Queen accepted the comfort of pain relief, most of this opposition stopped.\(^1\)

The first big advance in local anesthesia occurred in 1884. Carl Koller, an intern in Vienna's General Hospital, wanted a promotion to the eye surgery department. The best way to get it, he figured, was to develop a new anesthetic agent designed specifically for eye operations - one that would numb a small area without putting the patient to sleep. Working with Sigmund Freud, he found what he was looking for in cocaine, the substance that had been used in its natural form centuries before by South American Indians.\(^2\)

Koller gave cocaine by eye-dropper for the most part. Shortly after his discovery, an American surgeon, William Halsted, put the new anesthetic agent into a hypodermic needle and made another important advance in the art of anesthesiology. Halsted found that, by injecting the drug around the main nerve, he could cause numbness throughout the area of the body controlled by that main nerve. Several other researchers expanded and improved this "nerve-blocking" technique during the next several years. They devised methods of injecting anesthetic agents into the spine or in the vicinity of the spine to eliminate sensation throughout

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\(^2\) Ibid.
large areas of the body.\(^1\)

After cocaine came a long list of discoveries that tremendously increased the safety and reduced the discomfort of anesthesia. Even curare, the deadly Indian dart-gun poison, was eventually synthesized into an important muscle-relaxant for operation room use. The new agents gave the doctor a degree of control which few had ever dreamed of.\(^2\)

**Summary of Related Literature.**—The review of the related literature pertinent to the overall problem of this research which is concerned with providing documentary evidence substantiating the opposed claims of Dr. Long and Dr. Morton to the prior discovery and use of ether as an anesthetic in surgery has pointed up the fact that: (1) the evaluation of the opposed claims is far from being a simple problem; and (2) there is a general agreement that Dr. Long was the first to use ether as a surgical anesthetic.

Further, the related literature appears to emphasize the fundamental concepts separately indicated below:

1. When it stated that Dr. Long and Dr. Morton administered the first anesthetic, it is understood to mean the first surgical anesthetic.

2. The discovery of surgical anesthesia created for the world a sublime revolutionary gift.

3. Anesthesiology has now become a specialized branch of medicine requiring extensive training and experience and there are some 1,000 anesthetic agents.

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\(^1\) Ibid., p. 18.

\(^2\) Ibid., p. 19.
4. It is many authors' opinion that Long discovered and Morton publicized the use of sulphuric ether as an anesthesia.

5. Monuments have been erected to Long and Morton.

6. Jackson recommended that Morton try pure sulfuric ether. Morton professed ignorance of the use of sulfuric ether and Jackson later based his claim to the discovery on his suggestion to Morton that ether would anesthetize the patient. Morton did find out from Jackson, however, that pure sulfuric ether would serve his purpose better than any commercial product.
CHAPTER II

PRESENTATION AND ANALYSIS OF DATA

Organization and Treatment of Data.—The major purpose of Chapter II was to present and interpret the data available and pertinent to the controversial claims to the priority in the use of dental and/or medical operations as reported by Dr. Crawford Long and Dr. William Morton. The sources of the data for this research were: (a) Jackson County Clerk of Court Office, (b) University of Georgia Libraries, (c) Dr. Morton's records, books and letters and (d) Index to House Reports.

The presentation and analysis of the data were organized and are here presented under the following captions:

1. The Controversy in Perspective
2. Dr. Crawford W. Long's Case
3. Dr. William Thomas Green Morton's Case
4. Dr. Charles T. Jackson's Involvement
5. Involvement of the United States Congress
6. Similarities, Differences and Reconciliations of the Two Claims

The Controversy in Perspective

In 1920 the electors of the New York University Hall of Fame voted a place for William T. G. Morton as the discoverer of anesthesia. Some time later Dr. William Welch spoke of Crawford Long as follows: "While the accepted rule that scientific discovery dates from public
demonstration is a wise one, we need not in this instance withhold from
Dr. Long the credit of independent and prior experiment and discovery,
but we cannot assign to him any influence upon the historical develop-
ment of our knowledge of surgical anesthesia or any share in the
introduction to the world at large the blessings of this matchless
discovery.\footnote{1}

Sir William Osler allowed Long no part at all in the introduction
of surgical anesthesia, when he affirmed: "In science the credit goes
to the man who convinces the world, not to the man to whom the idea
first occurs. Morton convinced the world: the credit is his."\footnote{2}

While advocates of Crawford Long as the discoverer of surgical
ether were disappointed by the action of the electors, it provided the
needed stimulus for trying to establish his rights to the coveted honor.
In 1921, at a sectional meeting of the American College of Surgeons,
in Atlanta, Georgia, at the suggestion of Dr. E. C. Davis, chairman of
the program committee, a paper on Long and his work was read and published
culminating in the formation of the Crawford W. Long Memorial Association.
In 1926, through the activities of this organization in sponsoring public
subscriptions, Long's statue was erected in Statuary Hall, in the
National Capitol, where it had been voted a place by the Georgia Legis-
lature in 1902 which failed to provide funds for it. The instigator
of this successful movement was Dr. Joseph Jacobs, prominent Atlanta

\footnote{1}{W. H. Welch, Consideration of the Introduction of Surgical
Anesthesia (Boston: The Barta Press, 1908), p. 164.}

\footnote{2}{Harvey Cushing, Life of William Osler (Oxford: Clarendon Press,
1925), p. 604.}
pharmacist, who at six years of age, had worked in Long's drugstore in Athens, Georgia. In his effort to promote the cause of his former employer, he was ably assisted by the late Richard B. Russell, Chief Justice of the Supreme Court of Georgia from 1918 to 1929.\textsuperscript{1} Dr. Jacob's admiration for Crawford Long knew no bounds, and he was determined that he should receive the recognition he deserved.

September 30, 1846 Morton administered ether to Eben Frost in his office in Boston, Massachusetts. Thus encouraged, he asked to be allowed by the authorities of the Massachusetts General Hospital to demonstrate a drug in the Bulfinch amphitheater which would prevent pain in surgical operations. He called the drug "letheon," which later was found out to be ether with aromatic substances added to disguise its odor.\textsuperscript{2}

Permission was granted Morton to try the anesthetic for the removal of a tumor on the neck of a young printer, Gilbert Abbot and October 16, 1846 was set as the day for the operation. Morton was late in keeping his appointment and explained that he was detained awaiting the completion of a new inhaler. This is the excuse usually given for the delay, but Dr. Robert B. Osgood, prominent Boston surgeon, vouchers for the following story which was by Dr. W. L. Moss of Athens, Georgia in the book entitled The First Anesthetic by Frank K. Boland:

Dr. Henry Jacob Bigelow, rising young surgeon, had made arrangements for the event, and had invited several leading

\textsuperscript{2} Cushing, \textit{op. cit.}, p. 605.
Boston surgeons to be present. When Morton did not appear on schedule, Dr. John C. Warren, who was to perform the operation, became impatient, and was about to proceed without the assistance of Dr. Morton. Bigelow, fearing something was amiss, jumped into his cabriolet, and hurried to the dentist's office. There he found Morton packing a satchel preparatory to leaving town. Dr. Bigelow quickly persuaded him not to leave, and rushed the frightened young man to the amphitheater, where the celebrated procedure took place without mishap. Morton was always noted for having plenty of self-confidence and should not be accused of having less because of this incident. A tremendous act was about to go on, in which he was to play the principal role, with a well-qualified and critical audience. And besides, he must have been thinking of Wells' unfortunate experience which he had witnessed, in the same place, almost two years before. The occurrence of October 16 shows how much more aid was accorded Morton than Long when each gave his first surgical anesthetic. In Morton's demonstration, three surgeons especially deserve distinction along with Morton: Warren, for performing the operation; Bigelow, for arranging it and publishing the result to the world; and later, George Hayward, for compelling Morton to expose the fact that "letheon" was only masked ether.\

When Morton realized the magnitude of the demonstration and what it might mean to him in dollars and cents, he had the discovery patented, in the names of Morton and Jackson.

The first sentence of the patent reads: "Be it known that we, Charles T. Jackson and William T. G. Morton of Boston, County of Suffolk and State of Massachusetts, have invented or discovered a new and useful improvement in surgical operations."

The part claimed to have been played by Jackson will be discussed later. The pair planned to keep the identity of the agent ("letheon" or ether) a secret and sell the right to use it. Dr. Hayward forced

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2 Ibid., p. 84.
Morton to expose the true nature of "letheon" by refusing to permit its use so long as its mystery continued. The patent turned out to be invalid, although in one instance Morton brought suit unsuccessfully against Dr. Charles A. Davis, superintendent of the United States Marien Hospital at Chelsea, Massachusetts for infringement. Jackson withdrew his name from the patent on the condition that he be paid $500 and should receive ten per cent of the profits. If Morton's patent could have been maintained, his estimated share of the profits from rights to use it in the United States alone would have amounted to $355,000 in fourteen years when the patent expired.

Then within a few days after Morton's demonstration arose the famous "Ether Controversy," in which Morton and Jackson each claimed to be the discoverer of anesthesia. Morton and Jackson agreed to become "co-discovers," and the controversy began in earnest when Morton found out that Jackson had written the French Academy of Sciences, where he was well known, announcing himself alone to be the discoverer. Without mentioning Morton's name, Jackson added that he had employed a Boston dentist to give the anesthetic during a tooth extraction and after this succeeded he had arranged for the dentist to administer ether again for a surgical operation which also terminated with success.

When Morton learned these facts he sent a Memoir to the French

2 Ibid., p. 137.
Academy declaring that he was the discoverer of surgical anesthesia and that neither Jackson nor anyone else had much to do with it. A war of words and pamphlets ensued with each contestant calling the others by uncomplimentary names. With all this Crawford Long had nothing to do, although he heard of it. After the conflict reached the Congress, in 1847 and the two claimants were exhausting their supply of accusations and epithets, United States Senator W. C. Dawson of Georgia, on April 15, 1854 arose and introduced the name of Crawford Long as the discoverer, and it was added to the others. This move is reported to have exploded a bombshell into the debate but the dispute was by no means stopped. It raged intermittently on Congressional floors without a permanent decision from 1847 to 1863 so that it may be said that a Civil War was required to end it. The object of the dispute was two-fold: to determine who was the discoverer of anesthesia; and to decide who would receive the prize of $100,000 which later was raised to $200,000. The result was that no prize was awarded.¹

Dr. Charles T. Jackson was born in 1805 in the historic town of Plymouth, Massachusetts. He was ten years Crawford Long's senior. Jackson had an impressive educational and cultural background. It is noteworthy that his sister was the second wife of Ralph Waldo Emerson. In keeping with the custom of the times, Jackson first studied medicine under two distinguished tutors, Dr. James Jackson

and Dr. Walter Channing, and graduated M.D., with honors from Harvard in 1829. Following this he spent three years in Europe studying medicine and geology. In Vienna he performed autopsies upon two hundred patients who had died of Cholera. Jackson had a world-wide reputation as a geologist and chemist, with memberships in leading societies, but through his ambitions and the means he adopted to realize them, this man has been denounced as few men in high places have been.1

In the Congress Reports on the Ether Controversy, the expression "Jackson knew how to save a secret" appeared and is found to be frequently applicable to the present discussion. Already described in his treatment of Morton, when, after they had agreed to claim the discovery jointly, Jackson advised the French Academy secretly that it was he who made the discovery, and failed to mention Morton's name. In 1834, before this happened, Dr. Jackson had tried to appropriate from Dr. William Beaumont his human specimen the French half-breed "voyageur," a boatman in Canada, Alexis St. Martin, whose accidental gastric fistula was enabling Beaumont to learn the physiology of the stomach to an extent never known before. When Beaumont, with the patient he was supporting for scientific investigation, was about to be removed to St. Louis, Jackson circulated a petition among the members of the Congress urging that Beaumont be sent to Boston instead. There might not have been anything wrong with this if Jackson had first

1 Horace Wells, History of the Discovery of the Application of Nitrous Oxide Gas, Ether and Other Vapors, to Surgical Operations (Hartford: J. Gaylord Wells, 1847), p. 79.
informed Dr. Beaumont of what he was doing, but Surgeon General Lovell wrote that the petition was presented without the knowledge or desire of Dr. Beaumont. Beaumont had sent a specimen of St. Martin's gastric juice to Jackson and it is believed he was intent upon performing experiments of his own and wished to keep the "voyageur" where he could reach him.

As a climax, Dr. Beaumont later received a letter purporting to come from Alexis St. Martin with his mark attached, saying, "I have received a letter a few months ago from a Mr. Davis Campbell, corresponding secretary of the American Physiological Society of the city of Boston in Massachusetts, offering to engage me for a period of three to six months to be placed under the direction of an eminent physician for the purpose of experiments on digestion similar to those you have made."

Knowing the desire of the ambitious scientist to secure the invaluable St. Martin for his own, there can be but little doubt that the "eminent physician" was none other than Charles T. Jackson himself.

The seven years Charles T. Jackson spent in the McLean Hospital as a mental case from 1873 to 1880, are shrouded in secrecy. Efforts to ascertain whether he said, wrote or did anything during that time which would shed further light upon the discovery of anesthesia have

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2 Ibid., p. 200.
3 Ibid., p. 204.
been unsuccessful. The authorities have refused to divulge anything. There may be nothing to tell or there may be something of importance. Patients so unfortunately afflicted as Dr. Jackson may have lucid intervals when they can disclose facts upon which reliance may be placed.

Dr. Crawford W. Long's Case

Educational Background.—Born at Danielsville, Georgia, November 1, 1815, Crawford W. Long was the son of a planter, merchant and State Senator. His father, James Long, was a close friend of William H. Crawford who was perhaps Georgia's most noted statesman. It was for him that Crawford Long was named.

Crawford Long, after attending Danielsville Academy, entered Franklin College, now the University of Georgia, at the age of fourteen and secured his Master's degree in 1835. His roommate was Alexander H. Stephens who was later to serve as Vice President of the Confederacy.

After teaching for a year, Long studied medicine in the office of Dr. Grant of Jefferson. Later he continued the study of medicine at Transylvania College, Lexington, Kentucky. From there he transferred to the Medical School of the University of Pennsylvania where he graduated in 1839. He then spent eighteen months as an intern in a New York hospital gaining training and reputation as a surgeon.

Proofs and Claims.—Dr. Long has been criticized for not giving the dates of two operations which he performed before October, 1846;

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the operation on Mary Vinson for removal of three tumors from her head and the one on Isam Bailey for amputation of two fingers. This oversight cannot be explained but evidently Long gave the date to Dr. Charles Jackson when he visited Athens, Georgia, March 8, 1841, because in Jackson's article on the "First Practical Use of Ether in Surgical Operations," in the *Boston Medical & Surgical Journal*, April 11, 1861, Jackson gives the date of the operation on Mary Vinson as September 9, 1843; and the operation on Isam Bailey as January 8, 1845.¹

There is no exact date for the sixth operation on Mary E. Ware performed by Long before October, 1846 for which a verifying certificate is presented below:

Georgia  
Floyd County)

I, Mary E. Ware of Floyd County, Georgia certify that while residing near the village of Jefferson in Jackson Co., Ga., Dr. C. W. Long extracted a tooth for me while under the influence of Sulphuric Ether, produced by the inhalation of the same from a towel or handkerchief and without my suffering the least pain at the time the tooth was drawn. According to the best of my recollection and belief the tooth was extracted in the summer of the year 1846. I am positive it was extracted by Dr. C. W. Long before I ever heard or saw any account of any other person using Sulphuric Ether for the purpose of preventing pain in the extraction of teeth or in the performance of any surgical operation.

February the 15, 1854
Harris Young, Notary Public

Mary E. Ware

The exact number of persons who saw Long's first operation under anesthesia is not known, but the scene is shown usually with

four witnesses. Of these the certificates of three have been presented:

A. J. Thurmond, E. S. Rawls and W. H. Thurmond. The fourth is signed by J. E. Hays who saw the second operation on James M. Venable:

Georgia )
Jackson County)

I, James E. Hays of the County and State afore said, do state that I was a pupil in the Academy in the village of Jefferson, Jackson County, Georgia in the year 1812, then under the charge of William H. Thurmond. Sometime during that year I was present in the office of Dr. C. W. Long then of Jefferson but not of Athens, Georgia and witnessed the said Dr. Long cut a tumor or wen from the neck of James M. Venable, now deceased, while the said Venable was under the influence of Sulphuric Ether, produced by the inhalation of the same. The said James M. Venable seemed entirely unconscious of the performance and insensible to pain until an instant before the operation was finished.

The operation required some time for its performance. I know I cannot be mistaken in the year the operation was performed, nor in the fact that it was Sulphuric Ether inhaled and well acquainted with its smell. I think there was but little difference in my age and that of said James M. Venable; we were both at that time about the age of twenty-one years.

Previous to the performance of this operation, the said Venable informed me that Dr. C. W. Long had cut out another tumor from his neck in the early part of the same year while he was under the influence of the inhalation of Sulphuric Ether and that he was totally unconscious of and entirely insensible to pain during the performance of the operation. He informed me that after the effects of the inhalation of the Sulphuric Ether had passed off, he could not believe the operation was over until Dr. Long exhibited the tumor to him.

The fact of Dr. Long's using the inhalation of Sulphuric Ether to prevent pain in surgical operations was public and notorious in and near the village of Jefferson, Jackson County, Georgia in 1812.

Sworn to and subscribed before me this the 6th, April, 1864.

N. H. Pendergress, J. P.

James E. Hays
Maj. G. M.

The date of the second operation on James Venable does not appear in this affidavit but in his paper Dr. Long gives it as June
6, 1842 and this is the date which appears on the statement for services rendered. The bill for two operations has been criticized for its small amount, but the young doctor explained that the amount was made trivial to induce other patients to submit to operations under ether. The bill is reproduced, not to show how small it was, but to demonstrate again that on these dates two such operations were performed under ether. Since James Venable's name appears so frequently in this narrative in which he plays next to the leading role, it is not amiss to record that he belonged to one of the principal families of the state, the Venable family which owns famous Stone Mountain, sixteen miles from Atlanta.

The bill to James Venable for surgical services by Dr. Long is reproduced below.

James Venable

To Dr. C. W. Long

1842

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 28</td>
<td>Sulphuric Ether</td>
<td>.25</td>
</tr>
<tr>
<td>March 30</td>
<td>Ether and exsecting tumour</td>
<td>2.00</td>
</tr>
<tr>
<td>May 13</td>
<td>Sulphuric Ether</td>
<td>.25</td>
</tr>
<tr>
<td>June 6</td>
<td>Exsecting tumour</td>
<td>2.00</td>
</tr>
</tbody>
</table>

Georgia

Jackson County

I, P. F. Hinton, clerk of the superior court of said county, do certify that the above account is a correct copy of an original made in his book for medical services for year 1842. Given under my hand and seal of office this 27th of March, 1851.

P. F. Hinton, Clerk S.

Dr. Ange Delaperriere lived near Jefferson at this time. He was an exiled French nobleman and a cousin of Count de Trobriand, later General de Trobriand, of the United States Army during the War between
the States and during the reconstruction period was commander at New Orleans. Dr. DeLaperriere has descendents still living in Georgia. At first he refused to investigate Crawford Long's report on his anesthesia but later became one of his warmest friends and advocates and submitted the following affidavit:

Georgia )
Jackson County)

I, Ange DeLaperriere, M.D., do certify that I resided in Jefferson, Jackson County, Georgia in the year 1842 and that sometime that year I heard James M. Venable, then of said state and county, now deceased, speak of Dr. C. W. Long, then of Jefferson, in the county of Jackson, Georgia, now of Athens, cutting two tumours from his neck while under the influence of the inhalation of Sulphuric Ether, without pain, or being conscious of the performance of the operation.

I do further certify that the fact of Dr. C. W. Long using Sulphuric Ether by inhalation to prevent pain in surgical operations was frequently spoken of and notorious in the county of Jackson, State of Georgia, in the year 1842. I do further certify that the said James M. Venable was born and raised near Jefferson and was regarded as a young man of truth and veracity.

Sworn to and subscribed before me this 30th of March 1854
H. H. Pendergrads, J. P.

A. DeLaperriere, M.D.

Documents like the following demonstrate that Dr. Long broadcasted this discovery of anesthesia by word of mouth. Affidavits by a well-known Athens physician and the wife of another one support this statement:

Affidavit of Dr. James Camak

Athens, Georgia
Aug. 10th, 1878

This certifies that in the month of May, 1843, I was present and assisted Dr. R. D. Moore of this place in amputating a leg. He said to his three students (I being one): "If I had thought of it before we left home, I would have tried
Dr. Long's discovery, producing insensitivity by inhalation of Aether.”

James Camak, M.D.

Attest
Asa M. Jenkins
Ordinary of
Clarke County, Georgia

Affidavit of Mrs. Carlton

I do certify that Dr. Crawford W. Long of Jefferson, Jackson County, Georgia advised my husband, Dr. Joseph B. Carlton, a resident of Athens, Ga., to try sulphuric ether as an anesthetic in his practice.

In November or December, 1844 in Jefferson, Ga. while on a visit to the place, and in the office of Dr. Long, my husband extracted a tooth from a boy who was under the influence by inhalation of sulphuric ether, without pain, the boy not knowing when it was done.

I further state that the fact of Dr. Long using sulphuric ether to prevent pain was frequently spoken of in the county of Jackson at this time and was quite notorious.

Sworn to and subscribed before Frank Betts, June 29th, 1907
F. Y. Allgood, N. P., Clarke County, Ga.

Mrs. Emma H. Carlton

Three other documents which confirm Crawford Long's use of ether anesthesia in surgery at this time.

Affidavit of Mr. Lindsey

Georgia, Jackson County

Personally appeared before me John G. Lindsey, who being duly sworn deposeth and sayeth that he was a classmate of James M. Venable in the Academy at Jefferson in Jackson County, Georgia in the year 1842, then in charge of William H. Thurmond, Esq., and at some time during that year there was a surgical operation performed on James M. Venable by Dr. C. W. Long while he (the said J. M. Venable) has repeatedly told me he was under the influence of sulphuric ether administered to him by the said Dr. Long. I recollect to have heard him (Venable) say often in conversation with others that the operation was performed without pain whatever. The operation was cutting a tumour or wen from the back of the said Venable's neck. As to the above given I know I cannot be mistaken as it was the only year Mr.
Thurmond ever had charge of the Academy at Jefferson.

Sworn to and subscribed before me the 12th day of December, 1853
James H. Hayes, J. P.

John G. Lindsey

Documentary Letter of E. S. Rawls

A letter to "Miss Fannie Long," intended for Mrs. Francis Long Taylor, from E. S. Rawls, one of the witnesses of the first operation on Venable:

Marion, Perry Co., Ala.
June 3, 1880

Miss Fannie Long:

Your letter date May 1, 1880, has just come to hand. I assure you that I have never received a letter from your father or anyone else relative to the subject you mention except about 1850. I received a letter and some interrogations which I filled to the best of my memory. In my native village, Jefferson, Jackson County, Georgia, it was a very common thing (in the year 1812 I was about sixteen years old) for a parcel of town youngsters to meet together and take or inhale ether for sport. We bought what the druggist labeled sulphuric ether. Sometimes your father, Dr. C. W. Long would be with us. Occasionally some of us would get very much bruised but experienced no pain until after we recovered from the influence of the ether. Dr. Long frequently made expressions relative to the effects of ether on the system, he said that surgical operations could be performed without pain if enough ether would be used.

The doctor at that time was medicating a tumor on the neck of James M. Venable. He told Mr. Venable that he could cut out the tumor and that (Venable) would suffer no pain. A few days after this conversation I accompanied Mr. Venable to Dr. Long's office. Dr. Long cut out the tumor. Mr. Venable said he experienced no pain in the least. Mr. Venable and I were intimate friends and schoolmates at the time the above took place. You asked me what suggested the idea to his mind? He saw us get hurt while under the influence of ether. In other words he saw the apple fall, like Sir Issac Newton, he gave it his attention. You ask was his determination sudden. So far as I know it was, for soon after we began to use ether for sport he proposed to operate on Mr. Venable.

Your third question is: "Did he receive encouragement from anyone?" Not that I know of.
Your fourth question: "Was it the deliberate conviction of his own mind?" In expression of ideas he made no quotations.

"Had we ever heard of any one being made insensible by the inhalation of ether before this time?" I had used it and saw a great many others use it as I have stated, but never saw it used for any other purpose than sport and amusement until I saw Mr. Venable take or inhale it. At that time Mr. Venable and I were going to a literary school. I did not go into any office to read medicine until the year 1853.

I will take pleasure in answering any questions or give any information in my power. I expect I am the only living witness to the operation performed on Mr. Venable by your father.

Most respectfully,

E. S. Rawls

You are at liberty to use this in anyway you may see proper.

Documentary Letter of Dr. Groves

And finally a letter from Dr. John F. Groves who was a student in Dr. Long's office in 1814-1815:

Cuhutta, Ga.
Dec. 13, 1894

Mrs. Frances Long Taylor

Dear Madam:

In 1814, soon after I attained my majority, I decided to adopt medicine as my profession and began to think where and under whom I should begin the preparatory study. My father asked me to choose from among the number of physicians I knew the one I preferred to act as preceptor to me. Knowing Dr. Long so well and believing him to be a man of ordinary ability, I at once fixed upon him as my choice. I entered Dr. Long's office in May, 1814 as the first student ever under his care. As I progressed with my studies he saw fit to make known to me his discovery by the use of which he could perform surgical operations without giving any pain to his patient.

Not satisfied, however, that there was not more to learn about this great discovery, he proposed that we test it further, personally, which we did in his office, where with
closed doors administered it to each other to prove its
perfect anesthetic effect, also, to discover any bad effect
to the subject etherized. Owing to the prejudice and
ignorance of the populace, Dr. Long was prevented from
using ether in as many cases as he might have. Thus in the
two year preceding my entering Dr. Long's office he had only
about six cases in which to try the anesthetic effects of
ether.

The first case that came under his care where its use
was applicable after my going into his office was not until
January 8, 1845, which was the case of a Negro boy having
two fingers to amputate, caused by neglected burn. I, as
the only student still with the doctor, he had me to
accompany him to see the operation and assist in the adminis-
tration of ether. The first finger was removed without
pain, the second without the aid of ether, the child suffered
extremely. This was done to prove that insensibility to
pain was due to the agent used.

Soon after this in January, Dr. J. D. Long (a cousin)
came into the office as a fellow student; later toward spring
came P. A. Wilhite and in August came Dr. Long's brother, H.
R. J. Long. We four remained there at Dr. Long's office as
students until the opening of the fall term of the medical
colleges.

/s/ J. R. Groves, M.D.

Sworn and subscribed to and before me Dec. 15, 1894
Wm. H. Wilson, N. P.

The papers of Dr. Joseph Jacobs include six other affidavits
attesting to the operation on James Venable under anesthesia signed
by Sarah Venable his mother; John and Delilah Venable, Mary Jane
Davis and Elizabeth Duke, his brother and sisters; Martha E.
Pendergrass, Robert J. Millican, Joshua N. Glenn, and Joseph W.
Allen, Cammila S. Few, James E. Hays and Wyatt Wood.¹

Confirming the reliability of those whose names are signed to
the documents presented, and of many whose statements are not herein

¹
Joseph Jacobs, Dr. Crawford W. Long, the Distinguished Physician-
Pharmacist (Atlanta: 1919).
reproduced, the following certificate is given, signed by the clerk and ordinary of Jackson county, the home of Crawford Long at the time of the first anesthetic. These people were among the best citizens of the community.

Georgia
Jackson County

We, the undersigned P. F. Hinton, clerk of the Superior Court, and John G. Pittman, ordinary of said county, do certify that we are acquainted with the following named persons and that we believe them to be entitled to credit, viz., James M. Venable, John Venable, Eliza Venable, Mrs. Sarah Venable, Elizabeth Liddell, Sam, Davis, W. H. Thurmond, A. J. Thurmond, J. E. Hays, E. S. Rawls, C. L. Few, C. M. Lowery, C. M. D. Few, Joseph H. Davis, W. S. Thompson, I. N. Randolph, R. I. Millican, Esq., W. T. Millican, Esq., I. B. Nabors, Mrs. E. Nabors, N. H. Pendergrass, Esq., W. N. Barnett, Wm. Henderson, I. N. Glenn, Dr. A. DeLaperriere, Dr. I. C. DeLaperriere, Ralph Bailey, Sr., Milton Bailey, G. L. Thompson, Dr. J. D. Long, Dr. P. A. Wilhite, Joseph H. Adams, Mrs. M. Ware, W. Vincent, Mrs. Mary Vincent, John Calahan, W. M. Duke, Wyatt Wood, Jos. H. Hays, J. G. Lindsey, A. I. Lindsey, J. C. Stanley, W. A. Worsham and C. Witt, Esq. In witness whereof we have hereto set our hands and seal of office this 27th March, 1854.

P. F. Morton
John G. Pittman, Ordinary

Dr. William Thomas Green Morton's Case

Educational Background.—William Thomas Green Morton was born in Charlton, Massachusetts, August 9, 1819. His parents were James Morton and Rebecca Needham; his grandfather was an immigrant from Scotland who settled in Massachusetts.

Morton was educated at the Academies of Oxford, Northfield and Leicester, Massachusetts. In August, 1840, at the age of 21, he entered the Baltimore College of Denistry Surgery, "the oldest dental school in the world" (which was connected with the Washington University of Medicine in Baltimore), graduated in 1842 and at once began the practice of his
profession in Boston where he immediately met with wonderful financial success and was soon regarded as one of the most skillful dental surgeons in Boston.

Proofs and Claims.--On September 30, 1846, in his office in Boston, Morton administered ether by inhalation to a man, Eben Frost by name, and painlessly extracted a firmly rooted tooth.

Documentary Letter of A. G. Tenney

I, A. G. Tenney, of Boston, county of Suffolk and commonwealth of Massachusetts on oath depose and say that I was an eyewitness to the experiment performed with the vapor of sulphuric ether by Mr. W. T. G. Morton of this city at his office on the evening of the 30th of September, A. D. 1846. I allude to the experiment performed on Mr. Eben H. Frost.

On the following morning Mr. Morton called at the office of the Daily Evening Journal with which I was then connected and requested me to insert a notice of the said experiment in the paper of that day. I stated to him that the regulations of the office would require that he should first become an advertiser. In the course of the morning I received word that Mr. Morton had directed the insertion of his advertisement and thereupon wrote a notice of the experiment aforesaid, which came out in the Journal of the same evening.

The same morning there was considerable conversation between us in relation to the experiment of the preceding evening in the course of which Mr. Morton stated that he had received the assurances of Dr. Jackson that the application of the preparation which he had used was perfectly safe and harmless. Mr. Morton, a few days afterwards, repeated the same statement to me.

I was occasionally in and out of Mr. Morton's office from about the 10th of September, A. D. 1846 until the first of October next ensuing. All the different rooms of the office were accessible to and visited by me. There was no evidence of a demijohn of sulphuric, choloric or any form of ether in the office during the said interval of time. I think there could not have been any sulphuric ether there without my having detected its odor if it had been used.

I never saw Mr. Morton administer ether excepting on the evening of the 30th of September aforesaid although connected with his office from the 12th of October, 1846 until after the commencement of the year 1847.

From the statements and expressions of assistants in the office, I was led to conclude that they had no confidence in Mr.
Morton's knowledge of the nature and proper application of the ether. Mr. Morton appeared to have little or no connection with the responsibility of their experiments.

A. G. Tenney

**Morton's Application for Patent**

A lawyer was then consulted by Morton to secure a patent. This is shown in the following affidavit:

**Boston, May 22, 1847**

**Gentlemen:** I have received your communications of the 18th and 20th instant in which you state that you have understood me to be "in possession of important information relative to the discovery of the new property of sulphuric ether and of its subsequent history," and are desirous that I should "furnish such a statement of the matter as will elucidate so important a subject;" also, "to state how the names of Drs. C. T. Jackson and W. T. G. Morton became associated in the letters patent and what share each had in making the discovery." "Also, any other facts I may choose to communicate tending to the same end."

The friendly relations which for many years have existed between myself and Dr. C. T. Jackson have heretofore caused me to refrain from making known many facts in my possession in relation to the late discovery of the new effect of sulphuric ether. The difficulties between him and Dr. W. T. G. Morton I hoped to see settled by an impartial reference - one where the evidence produced by both parties could be subjected to a rigid examination in order that truth might be elicited and strict justice rendered to whichever of those gentlemen such a tribunal should accord the chief merit of making the discovery. I have earnestly recommended Dr. Morton, whenever an opportunity has presented, to induce Dr. Jackson to submit the matter of the discovery to such a reference. Accordingly, it was a cause of much gratification to me to learn that a proposition of Dr. Morton to do so had received the favorable consideration of Dr. Jackson. I find, however, my anticipations have not been realized. Dr. Jackson, after having consented to refer the case, and after delaying a long time to agree on a suitable umpire, has, as I learn, utterly refused to submit his claims to a just arbitration. Under such circumstances, I feel it a duty to make known to you a few facts. My business engagements prevent me from stating a particular history of much that has come under my observation in relation to this matter. I shall, therefore, endeavor to confine myself to a simple statement of what I was witness to from the time I first heard of the discovery until a patent was applied for on it in this country.

Within a few days of September 30, 1846 - I think the 1st of
October - Dr. W. T. G. Morton called on me at my office, stated to me that he had made an important discovery, by which he could extract teeth without pain and desired to learn from me whether it could be secured by a patent. After replying to him that he must state the nature of it before I could render him any definite opinion, he informed me that he used sulphuric ether by administering it by inhalation in a state of vapor. He mentioned that he had extracted a tooth without the patient being sensible of the operation and that on awakening from the sleep into which he had been thrown he was much surprised to find his tooth drawn and lying on the floor.

I stated to Dr. M. that as to the patentability of the discovery, I had some doubts; but that I would consult the law and the various legal decisions on the subject of patents and advise him of the result. After this I saw Dr. Morton not more than once, I think, if once, until Wednesday, the 21st day of October. In the meantime, I had read several articles in the newspapers relative to the experiments performed at the Massachusetts general hospital and had understood from Dr. Charles T. Jackson that he had some connexion with Dr. Morton in making the discovery. My reflections on the subject led me to the belief that a patent could be obtained in this country; and on the 21st day of October Dr. Morton having called at my office, I so informed him. I stated to him that from what I had learned from Dr. Jackson, I considered the discovery to be a joint one and that the patent, if applied for, must be conjointly by him and Dr. Jackson. In rendering such advice, I was fully impressed with the belief from the statements of Dr. Jackson that he (Dr. J.) had suggested to Dr. Morton the propriety of experimenting with ether—that Dr. Morton, without the presence or further assistance of Dr. Jackson, had practically demonstrated the effect of ether to annul pain. Upon this, I reasoned that had Dr. Morton kept the discovery secret, neither Dr. Jackson nor the world would have known of the result; or, in other words, had Dr. Morton not performed the experiment that he did, the discovery made could not have taken place; also, that had not Dr. Jackson given Dr. Morton the idea of using ether, neither Dr. Morton nor the world would have known of the discovery. It seemed to me to be a clear case of joint invention or discovery. Dr. Jackson had admitted to me that he had never performed a surgical operation of any kind on a patient under the influence of inhaled ether.

In reply to my remarks to Dr. Morton, he stated that he did not know by what right Dr. Jackson should have any interest in the patent as he (Dr. M.) had an understanding with Dr. Jackson to fully remunerate him for any advice he might rendered him. In order to satisfy myself more fully as to the position of Dr. Jackson in this discovery, and the understanding between him and Dr. Morton, I called at the office of Dr. Jackson the next morning. I cannot recollect the precise conversation which ensued at this interview, but the substance of it was that Dr.
Jackson informed me that by the laws of the Massachusetts Medical Society he would be prevented from joining with Dr. Morton in taking out a patent as he would be expelled from the association if he did so. He further stated that he intended "to make a professional charge of $500" to Dr. Morton for the advice he had given him and that Dr. Morton had acceded to this; that he did not wish his name connected with Dr. Morton's in any manner; that Dr. Morton might take out a patent if he desired to, or do what he pleased with it. I made inquiries as to the assistance rendered Dr. Morton and asked Dr. Jackson if he had ever tried any experiments to practically demonstrate the fact that the inhalation of ether would prevent pain during a surgical operation? He informed me that he had not. I am fully persuaded that Dr. Jackson, at this time, thought the whole matter of little value or importance. The conversation I had with him led me to this belief. He supposed Dr. Morton might realize something from it in his business of dentistry and was willing he should do what he pleased with it, so long as he did not couple his (Dr. J.'s) name with it. I afterwards inquired of Dr. Morton whether he had agreed to give Dr. Jackson $500 for the assistance rendered as well as for all the doctor's interest whatever in the discovery? He said that he had, and that he had agreed to pay him at the rate of ten per cent, on the sale of licenses until the $500 was paid.

On Friday evening, October 23, on my return to my residence after a visit to the theatre, I found Dr. Jackson in conversation with my father Caleb Eddy, Esq., and waiting to see me. At this interview I urged Dr. Jackson to waive his objections to associating with Dr. Morton as I was confident that he was mistaken in his views of what would be the action of the Medical Association; that Dr. Morton could not properly take out a patent without him; and that by joining in the patent he would, of a certainty, be obtaining credit as a discoverer; whereas, should he not do so, he might lose all credit as in the case of the magnetic telegraph which I had understood from Dr. Jackson he had suggested to Dr. Morse.

The next day, or within a few days after, I called on Dr. Augustus A. Gould to learn from him the nature of the rules of the Medical Society. Dr. Gould I knew to be a personal friend and a well-wisher of Dr. Jackson. He exhibited to me a copy of the by-laws in which I found they only provided, so far as I could see, that no member should deal in secret remedies. I perceived at once from them that no objection would arise to Dr. Jackson's patenting any invention he might make as it would cease to become secret the moment it might be patented. I understood Dr. Gould to coincide with me in my views. After preparing the specification I submitted it to Dr. Jackson who fully approved it. I next had it copied in a manner suitable to be signed and sworn to by the parties.

I recommended to Dr. Morton to allow me to insert, in the
written agreement to be made between him and Dr. Jackson, ten per cent on all sales of licenses, instead of ten per cent until the amount of $500; advised him to be liberal towards Dr. Jackson, both in giving him credit and a chance of profit. In this I was governed by a sincere desire to benefit Dr. Jackson, while at the same time I supposed I was doing my duty to Dr. Morton, as I believed it would be for his interest to do so. I thought the chemical science of Dr. Jackson would be brought to improve the article used, or to produce a better quality of ether than could be found in the market; that his association with Dr. Morton would give immediate character to the discovery and his future advice might be of great service to Dr. Morton. My views seemed to strike Dr. Morton very favorably and he acquiesced in them.

He, I would remark that he (Dr. M.) had never informed me of any experiments with ether, which I have since understood he made previous to his obtaining advice in relation to it from Dr. Jackson. This I can readily account for as I saw very little of him from the 21st of October to the 27th; the latter being the day on which the papers of the application for the patent were executed by the parties.

Dr. M. was so much engaged in his discovery and business of dentistry that I found it exceedingly difficult, if not impossible, to obtain an audience with him. His office was constantly thronged with persons in waiting to consult him on professional and other business. Had Dr. Morton, during this time, stated to me what I have read in the affidavits of Dr. G. G. Hayden, Messrs. W. P. Leavitt, T. R. Spear, Jr., and F. Whitman, I am confident I never should have advised him to associate Dr. Jackson in the discovery or patent as I should have concluded that his friendly intimacy with Dr. Jackson had led him to visit him as the readiest manner of obtaining certain chemical information respecting ether and its properties which might be found in various scientific or medical works not conveniently accessible to him.

I should have considered that the idea of using ether was an original one with Dr. Morton; that he had, by a practical application of it, made the discovery that it would annul pain under the operation of a surgical instrument; had been the first to publish this to the world and under peculiar circumstances, in which he had developed much of that remarkable energy of character we often find to belong to most great inventors who are generally obliged to stem a powerful current of difficulties and risks in order to impress on the community the importance of their discoveries. With such views, I do not hesitate to affirm that I should have accorded the discovery to him.

I would here remark that I had found Dr. Jackson tinctured with old and exploded prejudices against patents and I labored to remove them. So successful was I, that he subsequently informed me that after a consultation with a distinguished
chemist at the south, he had resolved to secure every invention he might hereafter make; and, in accordance with such views, he sent me the specification of an alleged improvement in preparing a certain article for dentistry purposes with the view of filing a caveat and taking out a patent on the same. His disinclination to associate with Dr. Morton in a patent arose from no disposition ever evinced to me, to give the public a gratuitous use of the discovery. The most important objection to his taking out a patent arose from what he supposed would be the action of the Massachusetts Medical Association.

In conclusion, I would remark that I have endeavored to state a few facts relative to the early discovery of the effect of sulphuric ether in surgical operations. In doing so, I am influenced by no other motives than to render justice to who it may be due. It is a matter of indifference to me to whom the world may ultimately accord the merit of being its benefactor for having given to it the great discovery in question. Dr. Jackson has been my personal friend for many years. With Dr. Morton, I have had comparatively, but little acquaintance, never having seen or known him previous to my introduction to him while he resided in the family of Dr. Jackson. My sympathies would naturally tend towards Dr. Jackson; but personal friendship, private character, or scientific attainments are matters which, it seems to me, ought not to prejudice me or any one in favor of or against either of the claimants when judging of the merits of their respective claims.

Yours respectfully,

/s/ R. H. Eddy

Affidavit re: Patent Application by Eddy

To Drs. George Hayward, S. D. Townsend, Samuel Parkman and H. J. Bigelow, Surgeons of the Massachusetts General Hospital

Commonwealth of Massachusetts ) ss.
County of Suffolk, city of Boston, June 18, 1847)

Then personally appeared the above named R. H. Eddy and being duly sworn did declare that his statements contained in the foregoing letter by him subscribed, are true according to the best of his recollection, knowledge and belief.

Before me: John P. Bigelow
Justice of the Peace

Morton's Request for Congressional Compensation

The following is a statement made by Morton asking compensation
from Congress for the discovery of the anesthetic or pain subduing property of sulphuric ether:

To the honorable Senate and House of Representatives of the United States of America in Congress assembled:

Your petitioner, William T. G. Morton

Respectfully Represents:

That he is a dentist in the city of Boston; that in the year 1846 and for several years previously thereto, he was in the prosperous and lucrative practice of his profession in that city, his actual annual receipts from his business, as his accounts will show, being between nine and ten thousand dollars.

That this occupation obliging him to see frequent instances of physical suffering, he was, as many others had been, induced to consider whether there might not be some means of alleviating such sufferings and rendering operations less painful to those obliged to submit to them.

That in pursuance of this object he examined such known and approved treatises on materia medica as he could obtain, consulted with the most learned persons to whom he could get access, but found the scientific knowledge on this subject wholly vague and unsatisfactory; that nevertheless, he continued the investigation and gathering all the information he could, was led, step by step, after many examinations and experiments, to the belief that sulphuric ether, properly administered, might produce partial if not total insensibility; that desirous to verify his belief, by actual experiment on the human system, and finding the idea prevalent among the scientific, that any application which would be productive of such effects would be injurious to health, if not fatal to life, he made the experiment upon himself and after an unconsciousness of several minutes, awoke with no injury to health; that thus confirmed his views, he proceeded, against much opposition and amidst many obstacles, until at last, in the presence of the most eminent surgeons and physicians of public institution, and on a public occasion, he was enabled to manifest the truth of his conception and exhibited a patient submitting to an amputation of a leg without the slightest sentiment of pain or the least injury to general health in consequence of the application which produced this insensibility.

Your petitioner would further state that interested in the investigations which resulted in this discovery, he devoted himself exclusively to them, to the neglect of his ordinary and regular business, in consequence of which his practice became almost entirely lost to him; that his experiments and the various arrangements and preparations which called upon him from all parts of the country as well as from foreign countries obliged him to make and which a belief in the validity of his patent
induced him to suppose would not be unrequited, were very expensive and involved him deeply in debt; that the patents which he obtained, though legally valid, were in fact wholly valueless in a pecuniary sense, and that he finds himself now, after all his outlays, exertions and endeavors with his practice greatly abridged, his reputation injured by the efforts of those who opposed with great warmth the introduction of his discovery; his health impaired by mental anxiety and over exertion; himself reduced to poverty, embarrassment and pecuniary distress and probably the only being living who has been a sufferer from a discovery which enables the world to rejoice in an exemption from many sufferings.

Your petitioner states only facts which are well and widely known. He, therefore, respectfully prays your honorable body that considering the nature of the discovery; the benefit which it confers and must continue to confer so long as nature lasts, upon humanity; the price at which your petitioner affected it in the serious injury of his business; the detriment to his health; the entire absence of any remuneration from the privileges under his patent and that it is of direct benefit to the government by its use in the army and navy, you should grant him such relief as might seem to you sufficient to restore him at least to that position in which he was before he made known to the world a discovery which enables man to undergo, without the sense of pain, the severest physical trials to which human nature is subject.

And your petitioner will ever pray, &c

/s/ Wm. T. G. Morton

Congress Committee Alerts Dr. Jackson of Dr. Morton's Request

The day on which the above memorial was presented to the committee, the Chairman addressed the following letter to Dr. Charles T. Jackson of Boston, knowing that a controversy had long existed between him and the memorialist in relation to the discovery claimed:

House of Representatives
January 20, 1819

Sir:

I write to inform you that a memorial of Wm. T. G. Morton was presented to the House of Representatives and referred to a committee on the patenting of compound medicines, of which I am chairman. The memorialist claims the discovery and
practical application of sulphuric ether in producing anesthesia and asks remuneration from Congress. I have long known of a controversy as to this discovery and am aware that you claim this as yours.¹ I shall with pleasure receive any communications on this subject.

Your obedient servant,

/s/ T. O. Edwards
Chairman, &c.

Dr. Jackson Presents Claims to Congressional Committee

The following remonstrance was presented to the House and referred to the committee:

To the Senate and House of Representatives of the United States in Congress Assembled:

The undersigned begs leave to represent that, whereas a memorial has been presented to the Congress of the United States by William Thomas Green Morton, of the city of Boston in the State of Massachusetts representing that in the year of our Lord one thousand eight hundred and forty-six he, the said Morton, made in the city of Boston aforesaid a discovery by which the human body is rendered insensible to pain during surgical operations and during other serious and violent affections, by means of the vapor of sulphuric ether inhaled into the lungs - praying also for a national remuneration or reward for making the said discovery and for its practical application: and whereas the said discovery was made by the undersigned, without the knowledge of the said Morton, without the co-operation or assistance of any person whomsoever and was communicated by the undersigned to various persons from the spring and autumn of eighteen hundred and forty-two to the thirtieth day of September, eighteen hundred and forty-six inclusive and on the said thirtieth day of September was also communicated by the undersigned to the said Morton he, the said Morton, being previous to the said communication of the discovery to him, wholly ignorant of the anesthetic properties and effects of sulphuric ether aforesaid; and whereas the undersigned did also on the thirtieth day of September, eighteen hundred and forty-six, devise and commit to the said Morton the performance of an experiment for the verification of the said
discovery so far as the extracting of teeth is concerned; and whereas the said Morton, acting in strict conformity with the instructions, and upon the exclusive and expressly-assumed responsibility of the undersigned, did, to the extent of a painless extraction of a tooth, successfully verify the said discovery; and whereas the undersigned did, shortly afterwards, cause the discovery to be further verified by the surgeons of the Massachusetts General Hospital in the first painless capital operation ever performed under the influence of the ether vapor: and whereas the signature of the undersigned to certain letters patent, taken out in the joint names of the undersigned and of the said Morton, declaring the discovery to be their joint invention, was obtained through the representation of Robert H. Eddy, esq., of said Boston to the solicitor by who the said letters patent were procured and co-partner with the said Morton in the profits thereof, that the undersigned "might lose all his credit as a discoverer," if he did not consent to be come a party to the said letters patent; and whereas the undersigned, after being instructed by eminent legal counsel, that the said Morton had not rendered himself in any sense a joint discoverer by reason of the painless extraction of a tooth as aforesaid and that he had not thereby acquired any right, either to an exclusive patent or to participation with the undersigned in any patent upon the said discovery, did publicly repudiate all connexion with the said letters patent and did refuse any part of the proceeds arising from the sale of licenses under the same and did, as he originally intended, give the discovery freely to the world to the full extent of his interest; evidence of all which is herewith submitted. The undersigned does, therefore, earnestly remonstrate against the memorial of the said Morton and prays that his petition may not be granted and that there may not be, on the part of the Congress of the United States, any recognition whatever of his claims to the said discovery.

/s/ Charles T. Jackson

Morton's Priority Claims

Morton presented documents to priority claim.

Bost., March 25, 1847

I, Francis Whitman, of Boston, in the county of Suffolk and State of Massachusetts, student at denistry, on oath depose and say:

That I have often heard Dr. Morton speak about discovering some means of extracting teeth without pain. This discovery appeared to be the subject of his thoughts and investigations
during the greater part of last year, i.e., 1846. One day - I think it was previous to July, 1846 - Dr. M., in speaking of the improvements he had made in his profession and of some one improvement in particular, said, "if he could only extract teeth without pain, he would make a stir." I replied, that I hardly thought it could be done. He said he believed it could and that he would find out something yet to accomplish his purpose. In conversation with Dr. M. sometime in July, he spoke of having his patients come in at one door, having all their teeth extracted without pain and without knowing it and then going into the next room and having a full set put in.

I recollect Dr. Morton came into the office one day in great glee and exclaimed that he had "found it," and that he could extract teeth without pain! I don't recollect what followed; but soon after, he wanted one of us in the office to try it and he then sent William and Thomas out to hire a man to come in and have an experiment tried upon him. After all these circumstances happened, Dr. Hayden advised Dr. Morton to consult with some chemist in relation to this discovery. I went, at Dr. Morton's request, to see if Dr. Jackson had returned (he having been absent from the city,) but found that he was still absent.

I told Dr. Morton I knew what it was that William had bought and said it was chloric ether. Mr. M. then said he wished to know if either would dissolve India rubber and sent William P. Leavitt to inquire of Dr. Gay if it would.

About this time, Dr. M asked me to get the books on chemistry and find what they said about ether. I did so and read it over to him and I think he went to Burnett's to see if he could find something there.

After the first announcement of the discovery in the papers, I went to Dr. Jackson's and he spoke to me of some notices in the papers; but, immediately after said he did not "care how much Dr. M. advertised if his own name was not drawn in with it." A week or two after this conversation, I was at Dr. Jackson's when he asked me how we got along with the gas. I told him that we got along first-rate. He then said he "did not know how it would work in pulling teeth but knew its effects at college upon the students when the faculty had to get a certificate from a physician that it was injurious to prevent them from using it;" but that he "did not know how it would operate in pulling teeth."

Francis Whitman

Leavitt's Experimental Experience

I, William P. Leavitt of Boston, in the county of Suffolk and State of Massachusetts, on oath depose and say:

That about one week after Dr. Hayden came to practice dentistry in connexion with Dr. Morton, with whom I was then a
student - that is to say about the first of July, 1846 - Dr. Morton stepped into his back office, much excited, and exclaimed with great admiration (as nearly as I can recollect his language) "I have got it now. I shall take my patients into the front room and extract their teeth and then take them into the back office and put in a new set and send them off without their knowing anything about the operation."

Some days after this, about the first of August, 1846, Dr. M. asked Dr. Hayden where he (Dr. Morton) could get some very nice pure ether. Dr. H. recommended him to send to Brewer, Stevens & Co. Dr. Morton then called me out behind the screen and requested me to go down to Brewer, Stevens & Co.'s and get him some pure ether. He told me to keep everything to myself. He said he wished me to be careful not to let them know who it was for or where I was from or going to. I then bought some ether; told them it was to be sent out of town and requested them to make out the bill in the name of some person in the country - whom I don't now recollect.

I brought the ether home and gave it to Dr. Morton. A short time after this he requested me to call on Dr. G. and ask him if ether would dissolve India rubber as he wanted to put some ether into an India rubber bottle or bag. I went to call but could not find his residence. I returned and said so to Dr. M. the next morning.

About a week after this Dr. Morton told me that if I would find a man who would have a tooth extracted and have an experiment tried upon him, which was perfectly harmless, he would give me five dollars and he sent me out with Thos. R. Spear, Jr., for that purpose. We went down to the wharves and spoke to a number of persons, but they declined coming; so that, after some time, we returned without bringing anyone with us. Dr. Morton then asked me to try it but I refused. He then said he wanted someone else to take it that he might see how it operated. Dr. Hayden said, "Thom, will take it;" but he said no he had no teeth he wished extracted. But he finally said, "I will take some, won't you?" We both took it the same evening, inhaling it from a handkerchief. Thomas took it first and I stood by him. He seemed to fall nearly asleep so that he dropped the handkerchief; and when he was coming to himself he was very much excited, so that I was obliged to hold him in the chair. When he came to, he seemed perfectly delighted with the sensations he had experienced - so much so that he could not find language to express himself. He then persuaded me to inhale it. I told him I would if he would leave the room, as he did, when I took it with much the same effects.

/s/ Wm. P. Leavitt

Dr. Charles T. Jackson's Involvement
Dr. Jackson was born in 1805 in the historic town of Plymouth, Massachusetts. Jackson first studied medicine under two distinguished tutors, Dr. James Jackson and Dr. Walter Channing and graduated M.D. with honors from Harvard in 1829. Following this he spent three years in Europe studying medicine and geology. In Vienna he performed autopsies upon two hundred patients who had died of cholera.1

Dr. Jackson stated in the Congress Reports that his profession was that of an analytical chemist in Boston, Massachusetts; that a few doors from his office was the office of Dr. W. T. Morton, a dentist. That on September 30, 1846 Dr. Morton came to his office and said, "Dr. Jackson, I have to perform an operation on a patient who is suffering very much and is in a very nervous condition. Can you suggest or give me something that will allay pain and quiet excessive nervousness?" That he took a small vial of sulphuric ether, adding some essential oils to disguise its odor and cautioned him in its use and fully directed him how the patient should inhale it. That the effect as an anesthetic was satisfactory and after that Dr. Morton frequently called on him for aid in that way and persevered in his efforts to learn what the article was. Finally he and Morton made a contract respecting the use of the anesthetic and applied for a patent under the name of "letheon."2

Dr. Jackson advised the French Academy of Sciences where he was well known that it was he who made the discovery of ether anesthesia and failed to mention Morton's name. Dr. Jackson added that he had

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1 Wells, loc. cit., pp. 79-81.
2 Ibid., p. 82.
employed a Boston dentist to give the anesthetic during a tooth extraction and after this succeeded, he had arranged for the dentist to administer ether again for a surgical operation which also terminated with success.

When Morton learned these facts he sent a memoir to the French Academy declaring that he was the discoverer of surgical anesthesia and that neither Jackson nor anyone else had much to do with it. A war of words and pamphlets ensued with each contestant calling the other by uncomplimentary names.¹

Involvement of the United States Congress

In 1854 Dr. W. T. Morton asked compensation from Congress for the discovery of the anesthetic or pain subduing property of sulphuric ether. That being interested in the investigations which resulted in this discovery, he devoted himself exclusively to them, to the neglect of his ordinary and regular business, in consequence of which his practice became almost entirely lost to him. That his suffering was approximately ten thousand dollars a year, and he should be compensated $1000,000 for the discovery of surgical anesthesia.

Congressional Committee's Negative Report Recommendation-Jan.28, 1863

The committee assigned to investigate the ether controversy submitted the following as the views of the minority:

The minority of the committee to which the memorial of W. T. G. Morton concerning the discovery of the anesthetic property of sulphuric ether was referred, regard the Congress of the United States as a body quite unsuited to give to this subject that calm and patient investigation which is due to its merits and

¹ Keys, loc. cit., pp. 240-245.
they would have desired to be excused from giving their opinions upon the questions in controversy if the majority of the committee had coincided in their views.

The committee, however, the majority having resolved upon the investigation have devoted to the subject such portion of their time as was not engrossed by other imperative duties, and, as the deliberate result of the best examination they have been able to give to it, adopted three resolutions, substantially as follows:

The first ascribes to Dr. Jackson the credit of having suggested to Mr. Morton that pure sulphuric ether may be inhaled with safety and that the effect of such inhalation is to produce insensibility to pain in the human body.

The second resolution ascribes to Mr. Morton the credit of having made the first practical application of sulphuric ether as an anesthetic agent so as to enable surgeons to perform operations upon the human body without pain.

The third resolution declines to recommend an appropriation of money for the relief of the memorialist.

"Whereas, we, the undersigned, believe that Dr. Charles T. Jackson of the City of Boston, by a legitimate induction from his experiments and observations, discovered the power of sulphuric ether to destroy pain and first recommended its use in surgical operations for that purpose, and whereas we believe that the claims of W. T. G. Morton to this discovery are without foundation, and that his first knowledge of the anesthetic power of sulphuric ether was communicated to him by Dr. Jackson with full instructions for subjecting it to a practical test, we would respectfully and earnestly remonstrate against any grant of money to him as the discoverer of etherization, or a recognition in anyway whatsoever by the Congress of the United States of his claims as such."

/s/ T. O. Edwards
Chairman, &c.

Similarities, Differences and Reconciliations of the Two Claims

The extreme confidence with which Dr. Jackson assured Dr. Morton of the practicability and safety of ether anesthesia is most significant. The Congress Reports reveal several instances which show that Jackson had positive information that successful surgical anesthesia was a fact. Dr. Jackson, in 1856, declared in the Congress Reports he advised Dr.
Morton ether anesthesia to be a safe and efficient means of preventing all sensations of pain in all surgical operations. No one had ever before spoke with perfect confidence of the power of the ethereal vapor to destroy pain of surgical operations.

In spite of Dr. Morton's protestations of being advised by Dr. Jackson, most recent writers on the history of anesthesia believe that Morton obtained the knowledge of the practical use and safety of ether from Dr. Jackson. Otherwise, why should Morton have agreed to allow Jackson to share the patent with him, and upon Jackson's withdrawing his name as a patentee, why should Morton grant Jackson ten per cent of the profits?

The views of the subject awards to Dr. Long, Dr. Morton and Dr. Jackson the merit of greatly siding by advice and instructions in the discovery of surgical anesthesia. Morton did not himself produce the result, which was new to him, or by his information carry knowledge in that direction that had been reached by Long. Nor is the result changed as to the merit of the discovery if we take the testimony of Dr. Jackson. On that hypothesis Dr. Long had proved to Dr. Morton that a patient, under the influence of the vapor of sulphuric ether would be insensible to pain during an operation was no new idea to either doctor.

Dr. Long, on March 17, 1842, in his office in Jefferson, Georgia used the inhalation of sulphuric ether to prevent pain in the surgical operation of James Venable, by name, and Dr. Morton, on September 30, 1846, in his office in Boston, Massachusetts, administered ether by inhalation to a man, Eben Frost, by name and painlessly extracted a firmly rooted tooth.
This is the case of two men in the pursuit of a discovery who have their minds fixed upon the object and the mode of effecting it determined, on who consults with another, who confirms and supports his previously entertained opinions.

The well attested conduct and statements of the parties themselves, at the times of the discovery in which the ether agent was claimed to have been conferred and accepted, what is termed by lawyers the res gestae, shows more clearly than everything else the true relation which they bore to each other and each of them to the subject matter in controversy.
CHAPTER III

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Recapitulation of Theoretical Framework of the Research.—Ether had been known since the fifteenth century but it had been largely a chemical curiosity until 1848 when Morton publicly demonstrated. Morton wasn't the first one to use ether anesthesia though. In 1842 Crawford Long, a doctor practicing in rural Georgia, administered what is generally considered the first successful dose of ether to relieve the pain of one James W. Venable. But Long didn't publicly tell anyone about what he's done and today there is some disagreement among the experts as to who is the father of inhalation of sulphuric ether anesthesia - Long or Morton.

Rationale.—The history of the discovery of surgical anesthesia dates back to the nineteenth and early twentieth centuries. Before that time crude methods such as beating a patient senseless or strapping him to a chair while being held by four or five strong men were used. Few, if any, persons today can picture a surgical operation without anesthesia. It was too ghastly and heart-rending. If specific drugs were used, they had but little effect so far as pain relief was concerned. "A full-blooded individual might be bled in an effort toward leading him to unconsciousness. If he had not fainted, as patients sometimes did, he probably would be praying that the operation be hurriedly finished.
or even stopped. He would implore and threaten and might escape if not firmly secured. But the operator could not faint and must finish what he had set out to do. It is inconceivable to us in the enlightened age that men as surgeons of the past whose names have been handed down with reverence could be capable of operating under these circumstances.  

The controversy over the discovery of anesthesia has been given much consideration in the medical annals. In 1920 the Electors of the New York University Hall of Fame voted a place for Dr. William T. G. Morton as the discoverer of anesthesia. Dr. William H. Welch wrote a letter in longhand in which he said that he believed his Ether Day Address of 1908, supporting Morton, was a strong factor in Morton's election. Dr. Welch, who himself was one of the electors, stated that he had sent a copy of his address to each of the others. What information they possessed concerning other claimants is not known.  

In his paper Dr. Welch spoke of Crawford Long as follows:

While the accepted rule that scientific discovery dates from public demonstration is a wise one, we need not in this instance withhold from Dr. Long the credit of independent and prior experiment and discovery, but we cannot assign to him any influence upon the historical development of our knowledge of surgical anesthesia or any share in the introduction to the world at large of the blessings of this matchless discovery.  

While advocates of Crawford Long as the discoverer were disappointed by the action of the electors, it provided the needed

2 W. H. Welch, Consideration of the Introduction of Surgical Anesthesia (Boston: Barta Press, 1908), p. 79.  
3 Ibid.
stimulus for trying to establish his rights to the coveted honor. In 1921, at a sectional meeting of the American College of Surgeons in Atlanta, Georgia at the suggestion of Dr. E. E. Davis, chairman of the program committee, a paper on Long and his work was read and published, culminating in the formation of the Crawford W. Long Memorial Association. In 1926, through the activities of this organization in sponsoring public subscriptions, Long's statue was erected in Statuary Hall in the National Capitol where it had been voted a place by the Georgia Legislature in 1902.¹

Dr. Joseph Jacobs, a prominent Atlanta, Georgia pharmacist, observed:

_They learned about anesthesia from Crawford Long and no one should share in the introduction to the world at large the blessings of this matchless discovery._²

**Evolution of the Problem.**—The problem involved in this study grew out of the interest of the writer in Dr. Crawford Long's status on the controversy which has arisen as to the first pioneer in the use of surgical anesthesia. Further, to fulfill one of the major requirements of the course in Methods of Educational Research, the writer decided to do his Master's research on the controversial issue of who performed the first painless operation by the use of an anesthesia.

**Contribution to Educational Knowledge.**—A study of this kind is valuable in ascertaining for the unprejudiced reader to what degree Dr. Crawford W. Long or Dr. William T. G. Morton is entitled to be acclaimed

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¹ _The Atlanta Constitution_ (January 17, 1921), p. 5.
the discoverer of surgical anesthesia. Therefore, it is hoped that this study will do the following:

1. Add to the amount of material already in the field.
2. Elicit further studies of controversial issues.
3. Serve as a historical account of the controversial claims to research priority in the field of surgical anesthesia.

Statement of the Problem.—The major problem involved in this research was to provide documentary evidence substantiating the opposed claims of Dr. Long and Dr. Morton to the prior discovery and use of ether as an anesthetic in surgery.

Limitations of the Study.—The major limitation of this study was the extent to which unbiased primary and secondary sources of information were available to the researcher; for this research's purpose was to ascertain and emphasize the substantiated contributions made by each subject of this study to the pioneering use of anesthesia for medical purposes.

Purpose of the Study.—The major purpose of this study was to give an account of the controversial claim between Dr. C. W. Long and Dr. W. T. Morton to research priority to the use of ether as a surgical anesthesia.

More specifically, the purposes of this study were:

1. To determine, insofar as possible, the exact first and/or dates on which each of the two men used anesthesia during painless operational procedures.
2. To determine, insofar as possible, who were the documented eye-witnesses to the first-time use of anesthesia by Dr. Long and Dr. Morton, respectively.
3. To determine, in each case, the course of events leading up to Dr. Long's and Dr. Morton's immediate achievement of anesthesia employment.
4. To determine, as nearly as possible, the primary sources which support the claims of Dr. Crawford Long and Dr. William Morton regarding the discovery of ether anesthesia.

5. To determine conclusions, implications and recommendations as warranted by the researcher.

Definition of Terms.—For the purpose of this study the following terms connote the respective meanings indicated:

1. "Priority" refers to a first right established in reference to date and time of performance.

2. "Anesthesia" refers to partial or total loss of physical sensation by the injection of an anesthetic drug with reference to dental and medical operative procedures.

3. "Res gestae" refers to things done: that especially; the facts that form the environment of a litigated issue and/or admissible in the evidence.

Method of Research.—The Historical-Documentary Method of research was used to gather the data necessary to the pursuit of this study.

Subjects and Materials.—The subjects and materials involved in this study are as described under the appropriate captions below:

I. Subjects

A. Dr. Crawford W. Long - Born at Danielsville, Georgia November 1, 1815. Long was the son of a planter, merchant and State Senator. His father, James Long, was a close friend of William H. Crawford who was perhaps Georgia's most noted statesman. It was for him that Crawford Long was named.

Crawford Long, after attending Danielsville Academy, entered Franklin College, now the University of Georgia, at the age of fourteen and secured his Master's degree in 1835. His roommate was Alexander H. Stephens who was later to serve as Vice President of the Confederacy.

B. Dr. William T. G. Morton - Dr. Morton was born in Charlton, Massachusetts in 1819 being therefore four years younger than Long. Morton graduated in dentistry from the Baltimore College of Dental Surgery the world's first dental school founded in 1820.
C. Dr. Charles T. Jackson - Dr. Jackson was born in 1805 in the historic town of Plymouth, Massachusetts. He first studied medicine under two distinguished tutors, Dr. James Jackson and Dr. Walter Channing, and graduated M.D. with honors from Harvard in 1829.

II. Materials

A. The writer contacted the Jackson County, Georgia Court-house Clerk of Courts office and secured primary documents and affidavits of Dr. Long's supporting his claims to research priority.

B. The Georgia Historical Museum, located in Jefferson, Jackson County, Georgia was helpful in obtaining authentic letters, and the account ledgers of Dr. Crawford Long.

C. The writer was able to obtain affidavits and statements supporting the claims of Dr. William T. G. Morton from a book written by Dr. Morton entitled, Statements, Supported by Evidence of W. T. G. Morton, M. D. on His Claims to the Discovery of Ether, Washington, D. C., 1853.

D. The Congressional Reports for Dr. Morton were secured from the Index to House Reports: Second Session, Thirtieth Congress, 1848-1849. This book was obtained from the University of Georgia Library.

E. The writer was able to obtain the role of Dr. Charles T. Jackson in the discovery of ether from a book written by Dr. Horace Wells History of the Discovery of the Application of Nitrous Oxide Gas, Ether and Other Vapors to Surgical Operations, Hartford, 1847.

Summary of Related Literature.—The review of the related literature pertinent to the overall problem of this research which is concerned with providing documentary evidence substantiating the opposed claims of Dr. Long and Dr. Morton to the prior discovery and use of ether as an anesthetic in surgery has pointed up the fact that:

(1) the evaluation of the opposed claims is far from being a simple problem and (2) there is a general agreement that Dr. Long was the first to use ether as a surgical anesthesia.
Further, the related literature appears to emphasize the fundamental concepts separately indicated below:

1. When it stated that Dr. Long and Dr. Morton administered the first anesthetic, it is understood to mean the first surgical anesthetic.

2. The discovery of surgical anesthesia created for the world a sublime revolutionary gift.

3. Anesthesiology has now become a specialized branch of medicine requiring extensive training and experience and there are some 1,000 anesthetic agents.

4. Many authors contend that Long discovered and Morton publicized the use of sulphuric ether as an anesthesia.

5. Monuments have been erected to Long and Morton.

6. Jackson recommended that Morton try pure sulphuric ether. Morton professed ignorance of the use of sulphuric ether and Jackson later based his claim to the discovery on his suggestion to Morton that ether would anesthetize the patient. Morton did find out from Jackson, however, that pure sulphuric ether would serve his purpose better than the commercial product.

Summary of Findings.—A summary of the analysis and presentation of data would appear to pin-point the significant findings indicated below:

1. Dr. Crawford W. Long first used ether in his office as an anesthetic in surgery in Jefferson, Jackson County, Georgia on March 9, 1842 and successfully removed a cyst from the neck of James Venable.

2. Dr. William Morton first used ether in his office as an anesthetic in dental surgery in Boston, Suffolk County, Massachusetts on September 30, 1846 and successfully extracted a tooth from Eben Frost. On October 16, 1846 Dr. Morton publicly demonstrated the removal of a tumor on the neck of Gilbert Abbott before an audience in the Bulfinch Amphitheatre in Boston, Massachusetts.

3. According to documents, the exact number of persons who saw Dr. Long's first operation under anesthesia is not known, but the scene is shown with four witnesses. Of these, the certificates of three were presented: A. L.
According to documents two persons witnessed Dr. Morton's first dental operation with ether as an anesthesia. Of these, a documentary letter was presented by A. C. Tenney. The second certificate is signed by William P. Leavitt who witnessed the second operation on Gilbert Abbott performed in the Bulfinch Amphitheatre.

5. After several conferences in an attempt to produce insensibility during dental surgery, Dr. Charles T. Jackson recommended and suggested that Dr. William Morton try the inhalation of sulphuric ether to prevent pain during an operation.

6. In an attempt to improve operative procedures after graduating in medicine, Crawford Long realized keenly the crying need of an efficient agent for the relief of the agony of surgical operations and although he had been practicing less than a year, circumstances dramatically played into his hands.


8. The primary sources of data which constitute the priority claim of Dr. William Morton at the time of the first anesthetic are given as follows: A. G. Tenney, R. H. Eddy, Frances Whitman and William P. Leavitt.

Conclusions.—The findings of this study appear to warrant the following conclusions:

1. The evidence of the primary sources of data concerning the discovery of the anesthetic property of sulphuric ether shows clearly Dr. Long by legitimate inductions from...
experiments, discovered the power of ether to prevent pain and first used it in surgical operations for that purpose. The claims of Dr. Morton to his discovery are without foundation and that his first knowledge of the anesthetic power of sulphuric ether was years later communicated to him by Dr. Jackson with full instructions for subjecting it to a public test.

2. The findings of the primary sources of data would ascribe to Dr. Jackson the credit of having suggested to Dr. Morton that pure sulphuric ether may be inhaled with safety.

3. The research ascribes to Dr. Morton the credit of having made the first public demonstration of sulphuric ether as an anesthetic agent so as to enable surgeons to perform operations upon the human body without pain.

Implications.--The implications that grew out of this study are given below:

1. One may be convinced Dr. Morton and not Dr. Long realized the magnitude of the operational demonstration and what it might mean universally to others during surgical operations.

2. One may suggest that Dr. Jackson's knowledge of the practical application of surgical anesthesia was obtained from Crawford Long but it is a difficult proposition to confirm after this lapse of years.

Recommendations.--The following recommendations were deemed essential as a result of this study:

1. That a further depth study be made which would perhaps reveal more light upon the discovery of successful anesthesia disclosing facts upon which reliance may be placed. If anything worthwhile is revealed, it is hoped future writers may give it publication.

2. That the Georgia Historical Museum include all materials, pro and con, on the claims of both Dr. Long and Dr. Morton.

3. That in the Jackson County, Georgia Clerk of Courts office the original sources having to do with the Ether Controversy be put in a more orderly condition for the use of the researcher.
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Books


**Articles and Periodicals**

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