

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

Science and Invention

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**NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORM**

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME

HISTORIC Ether Dome

AND/OR COMMON

Ether Dome

2 LOCATION

STREET & NUMBER Bulfinch Building, Massachusetts General Hospital, Fruit Street

— NOT FOR PUBLICATION

CITY, TOWN

CONGRESSIONAL DISTRICT

Boston

— VICINITY OF

Eighth

STATE

CODE

COUNTY

CODE

Massachusetts

025

Suffolk

025

3 CLASSIFICATION

CATEGORY

OWNERSHIP

STATUS

PRESENT USE

— DISTRICT

— PUBLIC

OCCUPIED

— AGRICULTURE

— MUSEUM

BUILDING(S) *

PRIVATE

— UNOCCUPIED

— COMMERCIAL

— PARK

— STRUCTURE

— BOTH

— WORK IN PROGRESS

— EDUCATIONAL

— PRIVATE RESIDENCE

— SITE

PUBLIC ACQUISITION

ACCESSIBLE

— ENTERTAINMENT

— RELIGIOUS

— OBJECT

— IN PROCESS

YES: RESTRICTED

— GOVERNMENT

— SCIENTIFIC

* individual room

— BEING CONSIDERED

— YES: UNRESTRICTED

— INDUSTRIAL

— TRANSPORTATION

— NO

— MILITARY

OTHER: Hospital

4 OWNER OF PROPERTY

NAME

The Massachusetts General Hospital Corporation

STREET & NUMBER

32 Fruit Street

CITY, TOWN

Boston

— VICINITY OF

STATE

Massachusetts

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE,
REGISTRY OF DEEDS, ETC.

Suffolk County Registry of Deeds

STREET & NUMBER

Suffolk County Court House

CITY, TOWN

Boston

STATE

Massachusetts

6 REPRESENTATION IN EXISTING SURVEYS

TITLE

None

DATE

— FEDERAL — STATE — COUNTY — LOCAL

DEPOSITORY FOR
SURVEY RECORDS

CITY, TOWN

STATE

7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
<input type="checkbox"/> EXCELLENT	<input type="checkbox"/> DETERIORATED	<input type="checkbox"/> UNALTERED	<input checked="" type="checkbox"/> ORIGINAL SITE
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> RUINS	<input checked="" type="checkbox"/> ALTERED	<input type="checkbox"/> MOVED DATE _____
<input type="checkbox"/> FAIR	<input type="checkbox"/> UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

The original building of the Massachusetts General Hospital was designed in the Greek Revival style by Charles Bulfinch and constructed in 1818-23 under the supervision of Alexander Parris. Built of coursed ashlar granite, it then consisted of a porticoed central section with 5-bay eastern and western wings, each 2 stories above a raised basement. Bulfinch incorporated into his plans a number of features from hospitals which he had visited in New York, Philadelphia, and Baltimore in 1816. Among these is the clinical amphitheatre, now known as the Ether Dome. Probably patterned after that of Pennsylvania Hospital (1805), it is located above the central section of the building in a square attic story topped by a skylighted saucer dome.

Bulfinch's building was nearly doubled in size in 1844-46 when 5-bay additions designed by George Perkins were constructed at the end of either wing. Perkins also directed extensive revisions of the original building's interior; the present appearance of the Ether Dome dates largely from that period. The room is bare and utilitarian and, except for the open dome and the pendentives on which it rests, has no distinctive architectural features. A bank of seats rises in curved tiers on the south side of the Ether Dome. Entrances are located on the east and west at floor level and at the upper tier of seats, the latter reached by narrow staircases outside the room. The operating theatre was originally lighted by an oculus at the center of the dome and the skylight on its southern side. The former was blocked off during the 19th century; the latter is now covered by electrically operated louvers.

The Ether Dome functioned as an operating theatre until 1867 and has since been used for lectures, meetings, and classes; moveable furnishings have varied with its function. The room was carefully restored in 1930 and again in 1965 but, with the exception of the changes in the dome noted above and the substitution of metal for wooden railings between the rows of seats, no significant alterations appear to have been made.

8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW				
<input type="checkbox"/> PREHISTORIC	<input type="checkbox"/> ARCHEOLOGY-PREHISTORIC	<input type="checkbox"/> COMMUNITY PLANNING	<input type="checkbox"/> LANDSCAPE ARCHITECTURE	<input type="checkbox"/> RELIGION	
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> ARCHEOLOGY-HISTORIC	<input type="checkbox"/> CONSERVATION	<input type="checkbox"/> LAW	<input checked="" type="checkbox"/> SCIENCE	
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> ECONOMICS	<input type="checkbox"/> LITERATURE	<input type="checkbox"/> SCULPTURE	
<input type="checkbox"/> 1600-1699	<input type="checkbox"/> ARCHITECTURE	<input type="checkbox"/> EDUCATION	<input type="checkbox"/> MILITARY	<input type="checkbox"/> SOCIAL/HUMANITARIAN	
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> ART	<input type="checkbox"/> ENGINEERING	<input type="checkbox"/> MUSIC	<input type="checkbox"/> THEATER	
<input checked="" type="checkbox"/> 1800-1899	<input type="checkbox"/> COMMERCE	<input type="checkbox"/> EXPLORATION/SETTLEMENT	<input type="checkbox"/> PHILOSOPHY	<input type="checkbox"/> TRANSPORTATION	
<input type="checkbox"/> 1900-	<input type="checkbox"/> COMMUNICATIONS	<input type="checkbox"/> INDUSTRY	<input type="checkbox"/> POLITICS/GOVERNMENT	<input type="checkbox"/> OTHER (SPECIFY)	
		<input type="checkbox"/> INVENTION			

SPECIFIC DATES 1846

BUILDER/ARCHITECT Charles Bulfinch; George Perkins

STATEMENT OF SIGNIFICANCE

The Ether Dome, a skylighted operating theatre atop the central section of Charles Bulfinch's Massachusetts General Hospital Building, derives both its name and its national significance from an event which occurred on October 16, 1846. On that morning, ether gas was first successfully used in public to anesthetize a patient for surgery; the operation was performed by Dr. John Collins Warren, the hospital's chief surgeon, and the ether administered by Dr. William T. G. Morton.

The Ether Dome served as the Massachusetts General Hospital's operating room from its opening in 1821 (portions of the building were not completed until 1823) until 1867. Since that time it has served as an amphitheatre for lectures, meetings, and classes. The room was altered somewhat, along with the rest of the hospital interior, in 1844-46. Though some of its equipment has been modernized (lighting, etc.), the basic design and character of the Ether Dome have remained unchanged since that time. The room is now open to the public when not in use by the hospital staff.

HISTORICAL BACKGROUND

From the earliest days of the medical profession, physicians sought a means to alleviate the pain which patients experienced while undergoing surgery. Opium, hashish, and alcohol had all been used, but without notable success. By the 1820's many people knew that both nitrous oxide and ether could cause unconsciousness. As early as 1792 Sir Humphrey Davey had proposed using nitrous oxide in operations, but Davey's suggestion went unheeded. Instead, nitrous oxide (laughing gas) and ether became popular as a means of inducing gags.

Ironically, it was its frivolous use that caused Dr. Crawford W. Long of Georgia, to notice that one felt no pain when "drunk" from ether. Struck by the observation, Long wondered if ether could be used during surgery, and in 1842 he successfully operated on a patient who had been put to sleep by ether. Long publicized neither this operation nor others of a similar nature, perhaps because talk of his discovery aroused fear in his neighbors. On the other hand, Dr. Horace Wells, of Hartford, Connecticut, sought to exploit his own success in 1844 in pulling a patient's tooth while he slept under the effect of nitrous oxide. Wells' attempt to arouse interest in his innovation failed and it was left to his former partner, William Thomas Green Morton, to publicly demonstrate the efficacy of ether as a surgical anesthetic.

(Continued)

9 MAJOR BIBLIOGRAPHICAL REFERENCES

- Garland, Joseph E. Every Man Our Neighbor (Boston, 1961).
 Ludovici, L. J. The Discovery of Anaesthesia (New York, 1961).
 Packard, Francis R. The History of Medicine in the United States (Philadelphia, 1901).
 Struik, Dirk J. Yankee Science in the Making (New York, 1962).

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY less than one
 UTM REFERENCES

A	1 9	3 2 9 6 6 0	4 6 9 1 9 8 0	B			
	ZONE	EASTING	NORTHING		ZONE	EASTING	NORTHING
C				D			

VERBAL BOUNDARY DESCRIPTION

The boundaries of the National Historic Landmark designation for the Ether Dome duplicate those of the designation for the Bulfinch Building in which the room is located: the foundation line of the building including the 1844-46 wings.

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

11 FORM PREPARED BY

NAME/TITLE Polly M. Rettig, Historian, Landmark Review Project; original form prepared by S. Sydney Bradford, Historian, 3/13/64

ORGANIZATION	DATE
<u>Historic Sites Survey, National Park Service</u>	<u>6/17/75</u>
STREET & NUMBER	TELEPHONE
<u>1100 L Street NW.</u>	<u>202-523-5464</u>
CITY OR TOWN	STATE
<u>Washington</u>	<u>D.C. 20240</u>

12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL STATE LOCAL

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

FEDERAL REPRESENTATIVE SIGNATURE N/A National Historic Landmark

TITLE

DATE

Designated JAN. 12 1965
 By George F. Remery
Oct. 20 1978

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

DATE

11/24/78

DIRECTOR, OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION ATTEST:

DATE

KEEPER OF THE NATIONAL REGISTER (NATIONAL HISTORIC LANDMARKS)

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CONTINUATION SHEET

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Born in 1819 in Charlton, Massachusetts, Morton attended a dental college in Baltimore in 1840 and upon being graduated joined Wells in operating a dental parlor. The undertaking failed to be profitable, so in 1843 Morton opened a dental office of his own in Boston, where he soon enjoyed a large practice. He subsequently attended Harvard Medical School, while continuing his dental work.

Having devised a new way of inserting false teeth, Morton next sought to discover a painless means of pulling dead teeth. He experimented with various pain killing agents, but finally settled upon ether as the most effective one. On September 30, 1846, he not only put himself to sleep with ether, but also pulled a tooth from a patient put to sleep with the gas. Excited by what he thought was an original discovery, Morton asked for an opportunity to use what he called his "preparation" at the Massachusetts General Hospital. Dr. John Collins Warren, the hospital's chief surgeon, agreed to Morton's request, and Morton was invited to participate in an operation at 10:00 a.m., Friday, October 16.

On that day, the operating theatre of the hospital was filled with doctors and students. Doubt about Morton's claims for his "preparation" was evident on the faces of most of those present, especially as at 10:10 Morton still had not arrived. Delayed by last-minute adjustments to his apparatus, Morton entered the room about 10:15, just as Warren had decided to proceed with the operation. Morton quickly moved to the patient, Gilbert Abbott, grasped one of his hands, and assured him that he would feel no pain. Seated in a chair, Abbott then began to inhale ether from a glass tube with a globe at its end and fell asleep in about five minutes. Warren then operated to remove a tumor from Abbott's neck. Visibly impressed at the conclusion of the operation, and at the patient's statement that he had felt no pain, Warren announced: "Gentlemen, this is no humbug." The hospital's record of the operation describes it as "remarkable in the annals of surgery."

Despite the complete success of this demonstration, Morton derived little practical benefit from his work. When forced to announce what his "preparation" was, the dentist became involved in a tragic quarrel involving himself and Wells, and to a lesser degree, Long. But Morton's real nemesis was Dr. C. T. Jackson, an erratic but brilliant scientist, who claimed he had told Morton about ether when Morton had attended his medical classes and whose virulent attacks helped cause Morton's death on July 15, 1868. Today, Long is credited with the first use of ether in an operation and Morton with proving to the world its value in surgery.

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The room in which Morton's demonstration was carried out, now known as the Ether Dome, is located atop the center section of the Massachusetts General Hospital's original building, designed by Charles Bulfinch and constructed in 1818-23 under the supervision of Alexander Parris. It ceased to function as an operating room in 1867 and since that time has been used by the hospital staff for lectures, meetings, and classes. Significant among these are the weekly Clinico-Pathological Conferences, whose proceedings are published in the New England Journal of Medicine and, with the support of the U. S. State Department, distributed with accompanying slides to some 160 medical schools in Asia, Africa and Latin America.

The Ether Dome was carefully restored in 1930 (in honor of Dr. William Whitworth Gannett, who served at the Hospital from 1891 to 1911) and again in 1965. Despite some modernization of its equipment, including the installation of electric lighting and a motor to operate the louvered skylight, the essential character of the room remains unchanged.