

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

FOR NPS USE ONLY

RECEIVED

DATE ENTERED

**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 **Russell Henry Chittenden House**

AND/OR COMMON **John C. Flanagan Law Office**

2 LOCATION

STREET & NUMBER **83 Trumbell Street**

CITY, TOWN **New Haven** VICINITY OF **3rd** — NOT FOR PUBLICATION
CONGRESSIONAL DISTRICT

STATE **Connecticut** CODE **09** COUNTY **New Haven** CODE **009**

3 CLASSIFICATION

| CATEGORY | OWNERSHIP | STATUS | PRESENT USE |
|---|---|--|--|
| <input type="checkbox"/> DISTRICT | <input type="checkbox"/> PUBLIC | <input checked="" type="checkbox"/> OCCUPIED | <input type="checkbox"/> AGRICULTURE <input type="checkbox"/> MUSEUM |
| <input checked="" type="checkbox"/> BUILDING(S) | <input checked="" type="checkbox"/> PRIVATE | <input type="checkbox"/> UNOCCUPIED | <input checked="" type="checkbox"/> COMMERCIAL <input type="checkbox"/> PARK |
| <input type="checkbox"/> STRUCTURE | <input type="checkbox"/> BOTH | <input type="checkbox"/> WORK IN PROGRESS | <input type="checkbox"/> EDUCATIONAL <input checked="" type="checkbox"/> PRIVATE RESIDENCE |
| <input type="checkbox"/> SITE | PUBLIC ACQUISITION | ACCESSIBLE | <input type="checkbox"/> ENTERTAINMENT <input type="checkbox"/> RELIGIOUS |
| <input type="checkbox"/> OBJECT | <input type="checkbox"/> IN PROCESS | <input type="checkbox"/> YES: RESTRICTED | <input type="checkbox"/> GOVERNMENT <input type="checkbox"/> SCIENTIFIC |
| | <input type="checkbox"/> BEING CONSIDERED | <input type="checkbox"/> YES: UNRESTRICTED | <input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> TRANSPORTATION |
| | | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> MILITARY <input type="checkbox"/> OTHER |

4 OWNER OF PROPERTY

NAME **John C. Flanagan**

STREET & NUMBER **83 Trumbell Street**

CITY, TOWN **New Haven** VICINITY OF **Connecticut** STATE

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, **New Haven Town Hall--Hall of Records**
REGISTRY OF DEEDS, ETC.

STREET & NUMBER **200 Orange Street**

CITY, TOWN **New Haven** STATE **Connecticut**

6 REPRESENTATION IN EXISTING SURVEYS

TITLE **None**

DATE FEDERAL STATE COUNTY LOCAL

DEPOSITORY FOR SURVEY RECORDS

CITY, TOWN STATE

44

7 DESCRIPTION

CONDITION

EXCELLENT
 GOOD
 FAIR

DETERIORATED
 RUINS
 UNEXPOSED

CHECK ONE

UNALTERED
 ALTERED

CHECK ONE

ORIGINAL SITE
 MOVED DATE _____

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

The John C. Flanagan Law Office at 83 Trumbell Street in New Haven, Connecticut, is a three story brick and shingle structure constructed in the 1880's. The tall chimneys with molded caps and the asymmetrical look in the massing are characteristics of this typical American adaptation of the Queen Anne revival style. The house is of no particular architectural importance.

Russell Henry Chittenden moved to 83 Trumbell Street in 1887. The house, which he may have purchased from the builder, remained his home until his death in 1943.

The integrity of the exterior of 83 Trumbell Street is whole. According to the present owner, no significant changes have been made since it was constructed. The interior has been remodeled. A law office occupies the first and second floor and there is a rental unit on the third floor. Although the floor plan has been changed, many original details were retained during the interior renovation.

48

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 type="checkbox"/> 1800-1899 | <input type="checkbox"/> COMMERCE | <input type="checkbox"/> EXPLORATION/SETTLEMENT | <input type="checkbox"/> PHILOSOPHY | <input type="checkbox"/> TRANSPORTATION |
| <input checked="" 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

BUILDER/ARCHITECT

STATEMENT OF SIGNIFICANCE

Russell Henry Chittenden, often called the dean of American biochemistry, was born February 18, 1856, in New Haven, Connecticut. With the exception of a trip to Germany in 1878, New Haven remained his home for his entire life. Chittenden did not come from a well-to-do family. From the time he first attended school, he worked part time to pay his fees. Among the ways he earned his tuition at the private French's School in New Haven were selling strawberries, giving lessons, and cleaning the school. Chittenden originally intended to become a doctor, but after entering the Sheffield Scientific School at Yale, he changed his major to chemistry. His senior year at Yale brought two developments that greatly influenced his career. First, he was placed in charge of the chemistry laboratory, and, second, his senior paper was published. In 1878 Chittenden traveled to Germany for the at the time almost compulsory training with the world's foremost chemists. When he arrived at the laboratory of Wilhelm Kuehne in Heidelberg, he discovered that Kuehne had read his senior paper and that it had impressed him. Chittenden gained immediate entrance to Kuhne's lab. At the time Kuhne was investigating the chemistry of digestion and Chittenden enthusiastically joined the work. The chemistry of digestion would remain his principal interest for the rest of his life.

In 1879 Chittenden returned to the Sheffield School. He took his PhD in 1880 and began a teaching career at Yale that lasted until his retirement in 1922. In 1882 he was appointed professor of "physiological chemistry" and placed in charge of the laboratory involved in this new branch of physiology and chemistry. From 1882 to 1898 Chittenden enlarged and improved the laboratory while conducting the research upon which his fame as a biochemist rests.

In 1898 Chittenden was appointed director of the Sheffield Scientific School. In 1904 he was also named treasurer. He held both positions until his retirement in 1922. During his twenty four years as director of the Sheffield Scientific School Chittenden transformed it into one of the best scientific institutes in country. Although after his appointment Chittenden did not cease entirely to pursue basic biochemical research, his administrative duties effectively took him out of the laboratory. His energies were primarily directed to enlarging the school, attracting a quality faculty, and serving on public boards and commissions such as the Referee Board created by the 1906 Pure Food and Drug Act and the National Research Council established during World War One. After his retirement in 1922 Chittenden took an interest in the history of his school and discipline. He published books on both subjects. He lived peacefully in New Haven until his death on December 26, 1943.

45

(Continued)

9 MAJOR BIBLIOGRAPHICAL REFERENCES

- "Russell Henry Chittenden," Dictionary of American Biography, Supplement Three, 1941-1945, (New York, 1973).
- Edward H. Beardsley, The Rise of the American Chemistry Profession, 1850-1900, University of Florida Monograph Series, Social Sciences, No. 23, Summer 1964.
- Hubert Bradford Vickery, "Russell Henry Chittenden," National Academy of Science Biographical Memoirs, Vol. 24, (Washington, 1947).

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY less than one acre

UTM REFERENCES

| | | | | | | | |
|---|------|-----------|-----------|---|------|---------|----------|
| A | 18 | 617131860 | 451751420 | B | | | |
| | ZONE | EASTING | NORTHING | | ZONE | EASTING | NORTHING |
| C | | | | D | | | |

VERBAL BOUNDARY DESCRIPTION

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

James Sheire, Historian

March 1975

ORGANIZATION

Historic Sites Survey, National Park Service

DATE

STREET & NUMBER

1100 L Street NW.

TELEPHONE

CITY OR TOWN

Washington

STATE

D.C.

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

TITLE

DATE

FOR NPS USE ONLY

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

DATE

DIRECTOR, OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION

ATTEST:

DATE

KEEPER OF THE NATIONAL REGISTER

49

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

FOR NPS USE ONLY

RECEIVED

DATE ENTERED

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

CONTINUATION SHEET

ITEM NUMBER 8 PAGE 1

Statement of Significance:

John C. Flanagan Law Office

Russell Henry Chittenden is best remembered as one of the founders of biochemistry in the United States. His interest in physiological chemistry, as biochemistry was then called, began while he was still an undergraduate. His study with Wilhelm Kuehne in Germany led him to select the science as his vocation. During his years at the Sheffield Scientific School Chittenden made two basic contributions to biochemistry. The first was his basic science discoveries in the chemistry of digestion. The second was his accomplishments as director of the at the time leading biochemical school in the United States.

Chittenden's research on digestion is divided in two related categories, the action of enzymes and nutrition. In his laboratory Chittenden succeeded in isolating various products of digestion and discovered that enzymes played a crucial role in breaking down proteins. Although he was unable to explain this chemical phenomenon, this work, as a biographer points out, "...threw much light on the complexity both of the protein molecule and of the process whereby it is decomposed in the body." Chittenden was a pioneer in the study of digestion and, although the work was rudimentary and has long been surpassed, he did contribute to the establishment of a firm technical foundation for the later study of the action of enzymes on proteins.

Chittenden's work on proteins led him to study nutrition. While disproving the popular opinion that alcohol was at all times poisonous, Chittenden decided to determine how many calories and proteins the human body requires to maintain good health. He felt that the prevailing judgement, that the body required a daily intake of thousands of calories and at least 118 grams of protein, was much too high. Using himself as a test person Chittenden reduced his daily diet to 2,600 calories and 50 grams of protein. Observing no ill effects, he stated in Physiological Economy in Nutrition (1904) that his calorie and protein levels were the nutritional ideal. The results of Chittenden's research on nutrition were controversial at the time and did not stand the test of time (e.g. the role of vitamins in nutrition had not yet been discovered), but he did help open up a whole new field for biochemistry.

As director of the physiological chemistry laboratory at the Sheffield Scientific School and later as director of the school itself, Chittenden made a major institutional contribution to science. He is rightly called the dean of American biochemistry. His school became the leading institution for teaching and learning biochemistry. According to his Dictionary of American Biography biographer, his laboratory "...supplied virtually a whole generation of biochemists in American institutions."

46

(Continued)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

FOR NPS USE ONLY

RECEIVED

DATE ENTERED

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

CONTINUATION SHEET

ITEM NUMBER 8

PAGE 2

Statement of Significance:

John C. Flanagan Law Office

Russell Henry Chittenden's significance in the history of science in America is that he was a founder and leading practitioner of biochemistry in this country. In addition he made significant contributions to the establishment of institutions that supported biochemical research. He is an excellent example of the fragmentation and specialization that took place in science between 1875 and the 1920's. When Chittenden entered the Sheffield Scientific School in the 1870's, physiology and chemistry were established disciplines each concerned with its given realm of nature. The genius of Chittenden and his European counterparts was their recognition that the discoveries and insights of one discipline could be applied to the other and vice versa. Physiological chemistry was born. In laboratories such as Chittenden's biochemistry developed its own identity as a separate biological science investigating a given area of nature. By the time Chittenden retired in 1922, biochemistry had become an established discipline with the full range of educational institutes, research facilities, societies, and publications. Russell Henry Chittenden, who participated in all these developments, is an excellent early example of the interdisciplinary, fragmented, and highly specialized nature of modern day science. With Chittenden, and others like him, American science entered its modern phase.

47