Form No. 10-300 (Rev. 10-74)

THEME: 19th Century Architecture

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

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

1 NAME

HISTORIC: S. C. Johnson and Son, Inc. Administration

AND/OR COMMON: Building and Research Tower

2 LOCATION

STREET & NUMBER: 1525 Howe Street

__NOT FOR PUBLICATION

CITY, TOWN: Racine __ VICINITY OF

CONGRESSIONAL DISTRICT: 1st

STATE: Wisconsin CODE:

COUNTY: Racine CODE:

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE	
__DISTRICT	__PUBLIC	X OCCUPIED	__AGRICULTURE	__MUSEUM
X BUILDING(S)	X PRIVATE	__UNOCCUPIED	X COMMERCIAL	__PARK
__STRUCTURE	__BOTH	__WORK IN PROGRESS	__EDUCATIONAL	__PRIVATE RESIDENCE
__SITE	**PUBLIC ACQUISITION**	**ACCESSIBLE**	__ENTERTAINMENT	__RELIGIOUS
__OBJECT	__IN PROCESS	X YES: RESTRICTED	__GOVERNMENT	__SCIENTIFIC
	__BEING CONSIDERED	__YES: UNRESTRICTED	X INDUSTRIAL	__TRANSPORTATION
		__NO	__MILITARY	__OTHER:

4 OWNER OF PROPERTY

NAME: S. C. Johnson and Son, Inc., Samuel Curtis Johnson, Chairman and Chief Executive Officer (414-554-2000)

STREET & NUMBER: 1525 Howe Street

CITY, TOWN: Racine __ VICINITY OF

STATE: Wisconsin 53403

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, REGISTRY OF DEEDS, ETC.: Racine County Courthouse

STREET & NUMBER: 730 Wisconsin Avenue

CITY, TOWN: Racine

STATE: Wisconsin

6 REPRESENTATION IN EXISTING SURVEYS

TITLE

DATE

__FEDERAL __STATE __COUNTY __LOCAL

DEPOSITORY FOR SURVEY RECORDS

CITY, TOWN

STATE

7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
X EXCELLENT	__DETERIORATED	X UNALTERED	X ORIGINAL SITE
__GOOD	__RUINS	__ALTERED	__MOVED DATE_____
__FAIR	__UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

The most extensive description of the buildings can be found in Carl Condit's Volume 2, American Building Art 1961. (In quotes following.)

The Administration Building is a windowless brick rectangle, lit by skylights and two strips of translucent Pyrex tubing encircling it just below the roof line and a few feet above eye level. It sealed out the noise, odor and ugliness of its industrial location. The main office is a single large room, 20 feet by 128 feet X 228 feet, ringed by a balcony. It is a beautifully lighted, quiet space.

"The structural system of the Johnson building may be regarded, from one standpoint, as an extension of the principle of the column and cantilevered slab to the point where the entire slab is divided into a set of nearly contiguous circular cantilevers. The column is a downward-tapering member cast integral with the dished annular slab, which extends 9 feet 9 inches from the center line of the column. All the slabs are interconnected at the roof level by short beams, each slab in this way providing partial support for the one adjacent to it. The entire system is in effect a continuous multi-support rigid frame. The resulting absence of bending in the column makes possible the use of an extremely narrow, virtually hinged bearing at the column foot.

The column and the slab of the Johnson building are reinforced throughout by a wire mesh; the slab itself is additionally reinforced by a series of annular bars near the periphery. Two stiffening rings of concrete were added between the outer edge of the column and the base, or inner periphery, of the slab. The mesh takes the small tension induced by the tendency of the column and the disc to buckle under compression. The presence of reinforcing at the outer edge of the slab indicates that the designers thought of this edge as a tension ring acting to resist the horizontal thrust in the disc, which in turn must be under compression. In other words, the disc acts somewhat like an inverted dome.

The number of columns was chosen on aesthetic grounds and it greater than necessary for purely structural purposes. There is a variation in the height of the columns in the office portion of the building and in the carport, but all columns and their associated slabs have the same form and horizontal dimensions. All these factors indicate an extreme structural redundancy in the internal design of the building. The exterior walls are conventional bearing members of brick.

(Continued)

8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW				
__PREHISTORIC	__ARCHEOLOGY-PREHISTORIC	__COMMUNITY PLANNING	__LANDSCAPE ARCHITECTURE	__RELIGION
__1400-1499	__ARCHEOLOGY-HISTORIC	__CONSERVATION	__LAW	__SCIENCE
__1500-1599	XX AGRICULTURE	__ECONOMICS	__LITERATURE	__SCULPTURE
__1600-1699	__ARCHITECTURE	__EDUCATION	__MILITARY	__SOCIAL/HUMANITARIAN
__1700-1799	__ART	X ENGINEERING	__MUSIC	__THEATER
__1800-1899	__COMMERCE	__EXPLORATION/SETTLEMENT	__PHILOSOPHY	__TRANSPORTATION
X 1900-	__COMMUNICATIONS	__INDUSTRY	__POLITICS/GOVERNMENT	__OTHER (SPECIFY)
		__INVENTION		

SPECIFIC DATES 1936-1939; 1947 BUILDER/ARCHITECT

STATEMENT OF SIGNIFICANCE

Frank Lloyd Wright designed three notable buildings during the depression: the Usonian House, the Kaufmann house "Falling Water" and the Johnson Wax Company in Racine. Carl Condit has called the administration and laboratory buildings the most original system of cantilever-slab construction ever built. The engineer was Wright's son-in-law, Wesley W. Peters. Following this commission, Wright began to receive increased critical attention and by 1940 he was again an acknowledged master.

A history of the company explains the design of the structure: "The company was founded in 1886 by Samuel Curtis Johnson, who began his career as a salesman of parquet floors. Johnson's recommendation to customers who inquired about the preservation and polishing of the floors was that they follow the long-established European practice of covering the surface with a wax prepared from the exudation of the carnauba tree, the Brazilian wax palm Copernicia. His customers followed his advice so readily that he soon established a business of his own to manufacture the product. The clearest indication of his success and his sons' is that the major expansion of the company's facilities had to be undertaken during the depression of the 1930's. Wright received the commission for the first unit of this expansion, the administration building, in 1936, but the novelty of the structure led the local building commissioners to delay the issuance of the permit until Wright had submitted a sample column to severe tests."[1]

He subjected his famous "mushroom" column to 60 tons of dead weight when it was required to carry only 2 to 12 tons. They were 22 feet high and had a base 9 inches in diameter fitted into a steel shoe. The secret of its great strength was wire mesh welded into a cone. The permit was granted in 1937 and the building opened in 1939. Giedion's description of the effect follows: "At the top there are widespreading circular discs which seem to float like leaves of giant water lillies among the tubes of heat-resisting, Pyrex glass. Most of the pillars carry nothing but the air above them.

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[1]Condit, Carl. American Building Art, Vol. 2, The 20th Century Oxford University Press, 1961, p. 172.

(Continued)

9 MAJOR BIBLIOGRAPHICAL REFERENCES

(See Continuation Sheet)

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY _____

UTM REFERENCES

	ZONE	EASTING	NORTHING
A	16	435250	4729090
B			
C			
D			

VERBAL BOUNDARY DESCRIPTION

Bounded on the north by the East-West extension of the north line of 15th Street; on the west by the North-South extension of the east line of Howe Street; on the south by the north line of Sixteenth Street; and on the east by the west line of Franklin Street, all in the City of Racine, Racine County, Wisconsin.

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

Carolyn Pitts, Architectural Historian

ORGANIZATION: Historic Sites Survey, National Park Service

DATE: July 1975

STREET & NUMBER: 1100 L Street NW.

TELEPHONE: 202-523-5464

CITY OR TOWN: Washington

STATE: D.C. 20240

12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL X 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

UNITED STATES DEPARTMENT OF THE INTERIOR
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Johnson Wax, Racine, Wisc.

The 14-story research tower (1947-50), which rises to an over-all height of 153 feet to the top of the penthouse, is the first building in which the floors are cantilevered out from a hollow central core containing an elevator, stairway, and utilities. The core, floor slabs, and foundation were cast as a single unit.

Wright's building is sheathed in alternate bands of brick spandrels and continuous windows of pyrex tubing. The extension of the latter throughout two stories was made possible by the novel and somewhat capricious device of alternating square and circular floors. For the foundation of the tower the core extends 54 feet below grade and is stabilized by a cantilevered annular slab, 60 feet in diameter, which tapers outward from a maximum depth of 4 feet at the perimeter of the core to a minimum of 10 inches at the outer edge. This floating slab transmits to the soil most of the load of the 70,000 square feet of floor area above it.

The floor construction in the Johnson tower is an extension of the system used in the administration building. The cantilever support of the floor, cast integral with a low parapet at its outer edge, is a dished slab tapering from a maximum thickness at the core wall to a minimum at its perimeter. The entire structural system of the tower is compact and efficient can easily be duplicated on a much larger scale for a similar type of building. It was recently adopted for the Marina City apartments in Chicago, two 60-story towers of cylindrical form located on the north bank of the Chicago River at State Street. However, space in the core and on the floors of the Johnson laboratory is extremely cramped, giving the impression of a Pullman bedroom, in contrast to the generosity with which Wright opened the main work room of the administration building."[1]

Most of the furniture was designed by Wright--streamlined rounded desks and three-legged chairs, waste baskets attached to furniture and clear of the floor, all coordinated with the interior space.

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[1] Condit, Carl. American Building Art, Vol. 2, The 20th Century Oxford University Press, 1961, pp. 172-176.

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The glass is manufactured in small lengths and is difficult to fix. But it does not discolor, and that is what Wright wanted. The pillars are a luxury, and so is the special glass, but why should not an administrative building, which is a work-building, for once be based on poetry? The light that shimmers through the tubes is of a marvelous quality. The impression of the hall is magic. We look up into the light like fish at the bottom of a pond, and the plates seem to swim in the flowing glass. The hall is the most fantastic thing that has been conceived in the architectural imagination for a long time. Its apparent pointlessness irritates many people--one could have spanned the whole space with a single truss. But the magic effect would have been lost."[2]

In 1947 design of the 14-story research tower was begun (completed in 1950). The floors are cantilevered out from a hollow central core in the manner of Mies van der Rohe's Berlin skyscraper projects (1919-1921) that were never executed and Mies himself never used that method using rather steel or concrete frame. Wright probably wished to make his 14-story tower a statement on the prestige of his client, for this use of upward space was not necessary in Racine as it was in dense urban areas.

In many ways the complex did not set new design trends but it fitted the clients needs and is perhaps one of the outstanding 20th century statements using light and plasticity of form to create a new concept of space.

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[2]Giedion, Sigfried. Space, Time and Architecture. Harvard University Press, 1959, pp. 420-421.

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