

Rock Island Arsenal
Artillery Wheel Stock Dry Kiln
(Building 139)
Second Street between Ramsay Street
and South Avenue
Rock Island
Rock Island County
Illinois

HAER No. IL-20-W

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3/139-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Department of the Interior
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HISTORIC AMERICAN ENGINEERING RECORD

ROCK ISLAND ARSENAL
ARTILLERY WHEEL STOCK DRY KILN
(Building 139)
HAER No. IL-20W

Location: Second Street Between Ramsey Street and South Avenue,
Rock Island Arsenal,
Rock Island,
Rock Island County, Illinois
UTM: 15.704850.4598690
Quad: Davenport East

Date of Construction: 1917-1918

Present Owner and Occupant: U.S. Army

Present Use: Maintenance office and shops

Significance: The Artillery Wheel Stock Dry Kiln was one of a pair of almost identical buildings erected in 1917-1918 for seasoning lumber used in the arsenal's manufacturing program (see HAER No. IL-20X). The building was designed in a crenelated Gothic Revival style, reflecting the architectural detailing of a large Artillery Ammunition Assembling Plant (see HAER No. IL-20U) constructed a block west during the same period. Part of the Rock Island Arsenal National Register Historic District, the Artillery Wheel Stock Dry Kiln embodied an equal concern for utilitarian and aesthetic considerations that became increasingly rare during subsequent wartime construction programs.

Historian: Jeffrey A. Hess, February 1985

Architectural Historian: David Arbogast, February 1985

PART I. HISTORICAL INFORMATION

A. Physical History:

1. Date of erection: The date "1917" is cast into concrete at the bottom of the north buttress of the west central bay. According to the arsenal's official Completion Report for World-War-I construction, the building was "begun 11-15-17, completed 11-30-[18]" (p. 2).
2. Architect: Westinghouse-Church-Kerr Company of New York (Completion Report, p. 2; original drawings in the Rock Island Arsenal Engineering Plans and Services Division).
3. Original and subsequent owners: U.S. Army.
4. Builder, contractor, supplier: Westinghouse-Church-Kerr Company of New York served as general contractor on a cost plus 10 per cent basis (Completion Report, p. 2).
5. Original plans and construction: On April 18, 1917, Westinghouse-Church-Kerr submitted to the arsenal command a crenelated, Gothic Revival design (see HAER No. IL-20U-12) for an Artillery Ammunition Assembling Plant, which was to be the largest structure in a proposed shell production complex about two blocks southwest of the nineteenth-century stone shops on Rodman Avenue. The design was approved by the War Department on April 20, 1917, and it strongly influenced the architectural detailing of several neighboring structures, including the Artillery Wheel Stock Dry Kiln (Crozier to Burr, April 20, 1917).

The Artillery Wheel Stock Dry Kiln was designed in conjunction with a Gun Stock Dry Kiln situated immediately to the south (see HAER No. IL-20X). Apparently, a single set of plans was prepared for both buildings, although the Artillery Wheel Stock Dry Kiln was originally planned to be twice as long as the Gun Stock Dry Kiln. The Rock Island Arsenal Engineering Plans and Services Division has the following drawings for original construction prepared by Westinghouse-Church-Kerr:

"Dry Kilns for Artillery Wheel Stock (Tiemann Type) / General Plan," December 13, 1917, No. 2196-E-7, RIA B139-A2.

"Dry Kiln for Artillery Wheel Stock (Tiemann Type) / Foundation Plan," November 1, 1917, No. 2196-E-1, RIA B139-A1.

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"Dry Kilns for Artillery Wheel Stock (Tiemann Type) / Elevations," December 14, 1917, No. 2196-E-6, RIA B140-B3, RIA B139-B1, D40009C.

"Dry Kilns for Artillery Wheel Stock / Reinforced-Concrete Details / Roof Slabs and Girders," December 7, 1917, No. 2196-E-4, RIA B139-B6.

"Dry Kilns for Artillery Wheel Stock & Gun Stock / Door Details," No. 2196-E-13, RIA B 139-B5.

"Dry Kilns for Artillery Wheel Stock & Gun Stock / Miscellaneous Details," December 22, 1917.

These drawings show a stuccoed, masonry, one-story building with monitor; the roofline on the east and west facades incorporates crenelated detailing. The original construction is documented by a 1944 photograph in the picture collection of the Rock Island Arsenal Historical Office (see HAER Photo No. IL-20W-5). The building's present configuration conforms to the original construction

6. Alterations and additions: About 1963, much of the original wood flooring was replaced with concrete flooring. The Rock Island Arsenal Engineering Plans and Services Division has the following plan for this alteration: "Bldg. No. 139 / New Concrete Floors / Plan & Sections," June 18, 1963.

At an undetermined date, the original, wooden, oversized doors with strap hinges on the east and west elevations were replaced with electric-operated overhead doors. The Rock Island Engineering Plans and Services Division has the following undated plan for this alteration: "Overhead Doors / Bldgs 139 and 140," RIA 139-1.1.

B. Historical Context:

In early 1917, the arsenal command made plans to construct a new manufacturing complex about two blocks southwest of the nineteenth-century stone shops on Rodman Avenue. Designed and built in a crenelated Gothic Revival style by Westinghouse-Church-Kerr and Company of the New York, the buildings in this new complex included an Artillery Ammunition Assembling Plant (see HAER No. IL-20U), a TNT Building (see HAER No. IL-20V), an Incinerator Building (see HAER No. IL-20Y), a Gun Stock Dry Kiln (see HAER No. IL-20X), and an Artillery Wheel Stock Dry Kiln. Like the other buildings in the complex, the Artillery Wheel Stock Dry Kiln was constructed in 1917-1918. Its

purpose was to season lumber used in the assembly of artillery carriages. The interior of the building was divided into a series of cells, or kilns, heated by steam coils. The building is presently used for maintenance offices and shops. It has been designated as "Building 139" at least since World War II (see HAER Photo No. IL-20W-5; for additional documentation, see HAER No. IL-20).

Prepared by: Jeffrey A. Hess
MacDonald and Mack Partnership
February 1985

PART II. ARCHITECTURAL INFORMATION

A. General Statement:

1. Architectural character: The building is a large structure exhibiting a simple, crenellated form of the late Gothic Revival style related to the popular Collegiate Gothic of the period, which was normally used for all types of educational buildings. Its applicaiton here and in Buildings 250, 251, 133, and 140 is one indication of the versatility of the style. Built to match Building 140, it has been extensively modified on the interior to meet its current functional needs.
2. Condition of fabric: The building is well maintained and is in good condition.

B. Description of Exterior:

1. Overall dimensions: Measuring 105' (3 bays) x 267' (14 bays), the building is one story with a tall, central corridor flanked by wide, low sides. There is a small basement in the southeast corner.
2. Foundations: Poured, reinforced concrete.
3. Walls: Stuccoed structural clay tile (HAER Photo Nos. IL-20W-1 and IL-20W-2). A projecting concrete coping caps the walls. At each corner are narrow, projecting walls raised above the adjacent walls with a central indentation in each face to give a crenellated effect. The central bays of the east and west ends have concrete buttresses at each side rising from the ground to the parapet wall. The upper parapet wall has a wide, central section with a shallow, triangular top flanked by crenellated sides. Beneath the central portion is a set of three machicolations in each end. At the bottom of the north buttress of the west central bay the date, "1917" is cast into the concrete. The exterior is painted cream.

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4. Structural systems: Structural clay tile exterior and interior walls. Reinforced concrete flooring. The roof system is structural clay tile.
5. Chimneys: Two, rectangular, sheet-metal, ventilation ducts exhaust through two window openings at the west end of the north elevation. A round, sheet-metal flue proceeds through a window opening at the west end of the south elevation.
6. Openings:
 - a. Doorways: Principal doorways (HAER Photo Nos. IL-20W-1 and IL-20W-2) are located in shallow segmental-arched openings in the center east and west bays. Each contains a modern, overhead door with concrete block infill between it and the larger opening. Single, pedestrian doorways (HAER Photo Nos. IL-20W-1 and IL-20W-2) are located at the south of the larger doorways. These contain modern slab doors with upper glass panels. There is a single, pedestrian doorway in the south elevation containing a panelled wood door.
 - b. Windows: Typical bays of the north and south elevations contain window openings (HAER Photo Nos. IL-20W-1 and IL-20W-2) with twelve-light, fixed, industrial, steel sash having eight-light, pivoting sash in their centers. Each bay of the monitor roof of the central corridor has a window opening (HAER Photo Nos. IL-20W-1 and IL-20W-4) containing a pair of fifteen-light, fixed, industrial, steel sash. Alternating pairs of these windows contain central, six-light, pivoting sash. Modern interior partitions contain four sets of twelve-light, fixed, wood sash; a two-light, fixed, steel sash; and a two-light, sliding, wood sash.
7. Roof:
 - a. Shape, covering: The three roof areas (HAER Photo No. IL-20W-1) covering the central corridor and the sides are each flat and are covered with tar and gravel.
 - b. Cornice, eaves: The roof is surrounded by a parapet wall (HAER Photo Nos. IL-20W-1 and IL-20W-2) and has an internal water drainage system tied to an underground drainage system.

C. Description of Interior:

1. Floor plans: The building has a straightforward, albeit an unusual plan. A wide, central corridor is flanked by large bays typically opening onto the corridor. A number of the bays have been partitioned on their corridor faces to create shop, office, rest, and

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locker rooms. Along the outer north and south walls and outside of the interior bays runs a narrow hallway interrupted only by doorways near the center. Small mezzanines have been added to the southwest and northwest corner bays and one north bay near the east end. There is a basement only in the southeast bay.

2. Stairways: All three mezzanines are reached by straight-run stairways of steel construction. The basement retains the only original stairway in the building. It is a very steep, steel stair with pipe railings located in the southwest corner of the basement.
3. Flooring: Typical flooring (HAER Photo Nos. IL-20W-3 and IL-20W-4) is poured concrete in the central corridor, bays, side subfloors, and basement. The narrow outside hallways have wide pine plank flooring. A steel deck with narrow steel strips forms the floor above the basement. In the locker room and rest room linoleum tile covers the concrete.
4. Wall and ceiling finishes: Original exterior and interior walls (HAER Photo Nos. IL-20W-3 and IL-20W-4) walls are painted structural clay tile. Non-original interior partition walls (HAER Photo No. IL-20W-4) are painted concrete block, wire cage, and painted plywood. The ceilings (HAER Photo Nos. IL-20W-3 and IL-20W-4) are painted structural clay tile. The basement has unpainted concrete walls and the open steel floor deck above for its ceiling.
5. Openings:
 - a. Doorways and doors: Virtually all of the original doorways have either been removed or have lost their doors. One original wood pedestrian door survives in the southeast corner. Set in a minimal, quarter-round frame, it has two panels with diagonal, beaded, tongue-and-groove, board panelling on one face and vertical, beaded, tongue-and-groove, board panelling set in a stop-chamfered, wood frame on the opposite face.
 - b. Windows: Window openings (HAER Photo Nos. IL-20W-3 and IL-20W-4) are masonry with no casings or other trim.
6. Hardware: Original hardware surviving on the original door includes two knuckle hinges and round, utilitarian brass knobs with rectangular plates.
7. Mechanical equipment:
 - a. Heating, air conditioning, ventilation: An elaborate set of steam pipes between the sub-floor and floor of the bays and

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hallways provided heat to cure the wood placed in the bays. Remnants of this system survive below the narrow, outer hallway floors and in the basement. There is no mechanical air conditioning or ventilation system.

- b. Lighting: The original incandescent lighting system has been replaced with fluorescent fixtures (HAER Photo No. IL-20W-4) in the side bays and mercury vapor fixtures (HAER Photo No. IL-20W-3) in the central corridor ceiling.
- c. Plumbing: No original plumbing fixtures survive in the building.
- d. Machinery: No original machinery, other than that associated with the steam heating system, is known to survive in the building.

D. Site:

General setting and orientation: The building is set north of its counterpart, Building 140, and south of Building 138, a salvage and surplus property building, west of Second Avenue. A railroad spur runs past the south elevation of the building. The relatively level site slopes gently to the south.

Prepared by: David Arbogast
Architectural Conservator
February 1985

PART III. SOURCES OF INFORMATION

A. Original Architectural Drawings:

The following drawings are on file at the Rock Island Arsenal Engineering Plans and Services Division:

Westinghouse-Church-Kerr and Company, "Dry Kilns for Artillery Wheel Stock (Tiemann Type) / General Plan," December 13, 1917, No. 2196-E-7, RIA B139-A2. Shows original construction.

Westinghouse-Church-Kerr and Company, "Dry Kiln for Artillery Wheel Stock (Tiemann Type) / Foundation Plan," November 1, 1917, No. 2196-E-1, RIA B139-A1. Shows original construction.

Westinghouse-Church-Kerr and Company, "Dry Kilns for Artillery Wheel Stock (Tiemann Type) / Elevations," December 14, 1917, No. 2196-E-6, RIA B140-B3, RIA B139-B1, D40009C. Shows original construction.

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Westinghouse-Church-Kerr and Company, "Dry Kilns for Artillery Wheel Stock / Reinforced-Concrete Details / Roof Slabs and Girders," December 7, 1917, No. 2196-E-4, RIA B139-B6.

Westinghouse-Church-Kerr and Company, "Dry Kilns for Artillery Wheel Stock & Gun Stock / Door Details," No. 2196-E-13, RIA B 139-B5.

Westinghouse-Church-Kerr and Company, "Dry Kilns for Artillery Wheel Stock & Gun Stock / Miscellaneous Details," December 22, 1917.

"Bldg. No. 139 / New Concrete Floors / Plan & Sections," June 18, 1963. Shows replacement of original wood flooring.

"Overhead Doors / Bldgs 139 and 140," RIA 139-1.1. Show replacement of original doors by electric-operated overhead doors.

B. Early Views:

The picture collection of the Rock Island Arsenal Historical Office has a 1944 photograph documenting the original Gothic Revival detailing. It is captioned "97 / Looking southwest at North Dry Kiln. Building #139 / 21 November 1944." (See HAER Photo No. IL-20W-5)

C. Bibliography:

1. Primary and unpublished sources:

Crozier to George W. Burr, April 20, 1917. Rock Island Arsenal Historical Office. Letter noting War Department approval of the Gothic Revival design for the Artillery Ammunition Assembling Plant, which influenced the design of the Artillery Wheel Stock Dry Kiln.

Hess, Jeffrey A., and Mack, Robert C. "Historic Properties Report Rock Island Arsenal, Rock Island, Illinois". Prepared by MacDonald and Mack Partnership, and Building Technology Incorporated for the Historic American Buildings Survey/Historic American Engineering Record, National Park Service, U.S. Department of the Interior, 1985. The report, with accompanying inventory cards, is filed as field records in the Prints and Photographs Division, Library of Congress, under HAER No. IL-20.

Real Property Cards. Rock Island Arsenal Engineering Plans and Services Division. Briefly describes building's structural characteristics and maintenance history.

2. Secondary and published sources:

Completion Report Covering All Construction Projects Accomplished Under Supervision of the Construction Division, U.S. Army at Rock Island Arsenal. N. pl.: n. pub., 1922. Rock Island Arsenal Historical Office. Describes planning and construction of building.

War's Greatest Workshop Rock Island Arsenal. N. pl.: Arsenal Publishing Co. of the Tri-Cities, 1922. Rock Island Arsenal Historical Office. Describes planning and construction of the building.

PART IV. PROJECT INFORMATION

This project was part of a program initiated through a memorandum of agreement between the National Park Service and the U.S. Department of the Army. Stanley J. Fried, Chief, Real Estate Branch of Headquarters DARCOM, and Dr. Robert J. Kapsch, Chief of the Historic American Buildings Survey/Historic American Engineering Record, were program directors. Sally Kress Tompkins of HABS/HAER was program manager, and Robie S. Lange of HABS/HAER was project manager. Building Technology Incorporated, Silver Spring, Maryland, under the direction of William A. Brenner, acted as primary contractor, and MacDonald and Mack Partnership, Minneapolis, was a major subcontractor. The project included a survey of historic properties at Rock Island Arsenal, as well as preparation of an historic properties report and HABS/HAER documentation for 38 buildings. The survey, report, and documentation were completed by Jeffrey A. Hess, historian, Minneapolis; Barbara E. Hightower, historian, Minneapolis; David Arbogast, architectural historian, Iowa City, Iowa; and Robert C. Mack, architect, Minneapolis. The photographs were taken by Robert A. Ryan, J Ceronie, and Bruce A. Harms of Dennett, Muessig, Ryan, and Associates, Ltd., Iowa City, Iowa. Drawings were produced by John Palmer Low, Minneapolis.