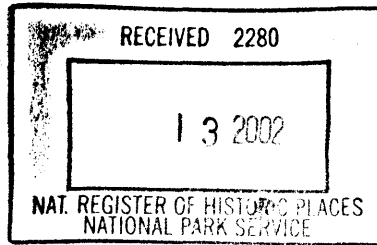


**United States Department of Interior  
National Park Service**



417  
OK

**National Register of Historic Places  
Registration Form**

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900A). Use a typewriter, word processor, or computer, to complete all items.

**1. Name of Property**

historic name Lindsay-Bostrom Building  
other names/site number N/A

**2. Location**

street & number 133 West Oregon Street N/A not for publication  
city or town Milwaukee N/A vicinity  
state Wisconsin code WI county Milwaukee code 79 zip code 53555

**3. State/Federal Agency Certification**

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this  nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property  meets  does not meet the National Register criteria. I recommend that this property be considered significant nationally  statewide  locally. ( See continuation sheet for additional comments.)

Alicia L. Cole Signature of certifying official/Title March 4, 2002 Date

State or Federal agency and bureau

In my opinion, the property meets  does not meet the National Register criteria.  
( See continuation sheet for additional comments.)

Signature of commenting official/Title Date

State or Federal agency and bureau

Lindsay-Bostrom Building Milwaukee Wisconsin  
 Name of Property County and State

**4. National Park Service Certification**

I hereby certify that the property is:  
 entered in the National Register.  
 \_\_\_ See continuation sheet.  
 determined eligible for the National Register.  
 \_\_\_ See continuation sheet.  
 determined not eligible for the National Register.  
 \_\_\_ See continuation sheet.  
 removed from the National Register.  
 \_\_\_ other, (explain):

*Edson H. Beall* 4/29/02

*for*  
Signature of the Keeper Date of Action

**5. Classification**

Ownership of Property (check as many boxes as apply)	Category of Property (Check only one box)	Number of Resources within Property (Do not include previously listed resources in the count)	
		contributing	noncontributing
<input checked="" type="checkbox"/> private	<input checked="" type="checkbox"/> building(s)	1	0 buildings
<input type="checkbox"/> public-local	<input type="checkbox"/> district	0	0 sites
<input type="checkbox"/> public-State	<input type="checkbox"/> structure	0	0 structures
<input type="checkbox"/> public-Federal	<input type="checkbox"/> site	0	0 objects
	<input type="checkbox"/> object	1	0 total

Name of related multiple property listing:  
 (Enter "N/A" if property not part of a multiple property listing.)  
 \_\_\_\_\_  
 N/A

Number of contributing resources  
 is previously listed in the National Register  
 \_\_\_\_\_  
 0

**6. Function or Use**

Historic Functions (Enter categories from instructions)	Current Functions (Enter categories from instructions)
COMMERCE/TRADE:specialty store	WORK IN PROGRESS
COMMERCE/TRADE:warehouse	
INDUSTRY/PROCESSING/EXTRACTION: Manufacturing Facility	

**7. Description**

Architectural Classification (Enter categories from instructions)	Materials (Enter categories from instructions)
LATE VICTORIAN/Romanesque	Foundation Stone
	walls Brick
	Concrete
	roof Asphalt
	other Terra Cotta

**Narrative Description**  
 (Describe the historic and current condition of the property on one or more continuation sheets.)

Lindsay-Bostrom Building  
Name of Property

Milwaukee County  
County and State

Wisconsin

## 8. Statement of Significance

### Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for the National Register listing.)

- A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B Property is associated with the lives of persons significant in our past.
- C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D Property has yielded, or is likely to yield, information important in prehistory or history.

### Criteria Considerations

(Mark "x" in all the boxes that apply.)

Property is:

- A owned by a religious institution or used for religious purposes.
- B removed from its original location.
- C a birthplace or grave.
- D a cemetery.
- E a reconstructed building, object, or structure.
- F a commemorative property.
- G less than 50 years of age or achieved significance within the past 50 years.

### Areas of Significance

(Enter categories from instructions)

INVENTION

### Period of Significance

1904-1951

### Significant Dates

N/A

### Significant Person

(Complete if Criterion B is marked)

N/A

### Cultural Affiliation

N/A

### Architect/Builder

Crane, Charles D.

### Narrative Statement of Significance

(Explain the significance of the property on one or more continuation sheets.)

Lindsay-Bostrom Building  
Name of Property

Milwaukee County  
County and State

Wisconsin

### 9. Major Bibliographic References

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

**Previous Documentation on File (National Park Service):**

- preliminary determination of individual
- listing (36 CFR 67) has been requested
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic landmark
- recorded by Historic American Buildings Survey #
- recorded by Historic American Engineering Record #

**Primary location of additional data:**

- State Historic Preservation Office
- Other State Agency
- Federal Agency
- Local government
- University
- Other

Name of repository:

Minnesota Historical Society

### 10. Geographical Data

Acreeage of Property less than one acre

UTM References (Place additional UTM references on a continuation sheet.)

1	<u>16</u>	<u>425690</u>	<u>4764120</u>	3	<u>                    </u>	<u>                    </u>	<u>                    </u>
	Zone	Easting	Northing		Zone	Easting	Northing
2	<u>                    </u>	<u>                    </u>	<u>                    </u>	4	<u>                    </u>	<u>                    </u>	<u>                    </u>
	Zone	Easting	Northing		Zone	Easting	Northing

See Continuation Sheet

Verbal Boundary Description (Describe the boundaries of the property on a continuation sheet)

Boundary Justification (Explain why the boundaries were selected on a continuation sheet)

### 11. Form Prepared By

name/title Gary Tipler and Susan Mikos  
organization  
street & number 807 Jenifer St.  
city or town Madison

state WI

date 4/19/01  
telephone 608-286-1844  
zip code 53703

Lindsay-Bostrom Building  
Name of Property

Milwaukee County  
County and State

Wisconsin

### Additional Documentation

Submit the following items with the completed form:

#### Continuation Sheets

**Maps** A USGS map (7.5 or 15 minute series) indicating the property's location.  
A sketch map for historic districts and properties having large acreage or numerous resources.

**Photographs** Representative black and white photographs of the property.

**Additional Items** (Check with the SHPO or FPO for any additional items)

### Property Owner

Complete this item at the request of SHPO or FPO.)

<b>name/title</b>	Tom Capp	<b>date</b>	4/19/01
<b>organization</b>	Gorman and Company	<b>telephone</b>	608-257-4410 x310
<b>street&amp;number</b>	1244 South Park Street	<b>zip code</b>	53715
<b>city or town</b>	Madison	<b>state</b>	WI

**Paperwork Reduction Act Statement:** This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 *et seq.*).

**Estimated Burden Statement:** Public reporting burden for this form is estimated to average 18.1 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Projects, (1024-0018), Washington, DC 20503.

**United States Department of the Interior**  
National Park Service

**National Register of Historic Places**  
Continuation Sheet

Section 7 Page 1

Lindsay-Bostrom Building  
Milwaukee, Milwaukee County, WI

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Physical Description

The Lindsay-Bostrom Building is situated at 133 W. Oregon St., Milwaukee, in an area characterized by other light manufacturing and warehouse buildings. It is located just outside of the South First and Second Street Historic District (NRHP, 11/30/87), a compact district of primarily nineteenth century retail, light manufacturing and warehousing businesses. Located within the district, approximately three blocks away, is the first building constructed by Lindsay Brothers, Inc., built in 1892. The 1892 building remained in use by the Lindsay Brothers after the construction of the building on Oregon Street, the subject of this nomination.

The Lindsay-Bostrom Building fronts on West Oregon and South First streets and is further bounded by South Second Street on its west side and a spur track of the Milwaukee Road along the rear of the structure. The building was constructed in two parts: the five story warehouse-type building built in 1904 to the designs of Charles Crane and a 100 by 105 foot, two story addition, built in 1920. The original building measures 240 feet by 100 feet, and is a brick-veneered building of heavy timber, or semi-mill construction. The building is rectangular, except for a faceted corner at the juncture of Oregon and South First streets, adjoining the old Milwaukee Road main line right-of-way.

The building originally had firewall divisions that separated it into four five-story components. Originally, one elevator was shared among the units, but this changed with the addition of new elevators in later years. According to original plans, each of the units originally had finished offices, but none of these remain.

The building rests on a partially exposed foundation of rusticated limestone. The walls of the principal elevations, on West Oregon Street and South First Street, are of red pressed brick. The pressed brick continues around the rear of the building at South First Street to the depth of one arch bay. The rear or track side of the building is built of a utilitarian brick, which has been painted a buff color. The visible upper stories of the west side of the building are painted brick red.

The principal facades of the building, on Oregon and South First streets, exhibit Romanesque stylistic elements. The two-window-width bays are set off by pilasters which support rounded arches that surmount the fourth story windows. There are fourteen arch-topped bays on the Oregon Street facade, one corner bay, and five bays on the First Street facade, and a windowless bay on the rear elevation nearest First Street.

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Continuation Sheet

Section 7 Page 2

Lindsay-Bostrom Building  
Milwaukee, Milwaukee County, WI

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Indiana limestone and white-painted terra cotta trim accent the Oregon and South First Street facades, giving the building a polychrome appearance. At the base of the second floor windows, the pilasters rest on projecting limestone plinths supported by limestone bases. The terra cotta capitals, produced by the American Terra Cotta and Ceramics Company of Chicago, in a modified Corinthian style, mark the juncture of the pilasters and the spring line of the arches.

Indiana limestone sills and lintels span the pairs of windows on the second and third floors, creating the appearance of trim courses interrupted by the pilasters. The fourth story windows rest on identical concrete sills, but have brick segmental arch heads. Above the rounded arches over the fourth floor windows, a cement belt course encircles the building, incorporating the window sills of the fifth story windows, which are topped with concrete lintels matching those on the second and third stories. The cornice above the fifth floor is articulated with corbelled denticulated brick. The building has a parapet wall and a low-pitched roof.

The original paired ground-floor showroom windows have long been replaced with large, eight-pane windows that span the space between pilasters. Several original entrances have also been removed. In the upper stories, the remaining original wood double-hung windows have two-over-two-light sashes. Many of these windows have been replaced or covered. A band of painted metal sheathing covers the original entablature area at the top of the first story storefronts.

The rear of the building has segmental-arch windows, many of which have been replaced or infilled with brick. The spur track originally ran along the rear of the building at ground level, but was raised to second-story level about 1916. Several garage doors and other utility doors were created provide access to the building at the higher track level. Steel-frame canopies were added after that time.

In 1920, as part of a remodeling to repair lightning damage and raise the ceiling height, the upper part of the southeast corner was rebuilt. An attic space, visible only from the rear, was added to the southeastern corner of the building. The southern half of the cornice on the east facade was reconstructed and added a level of clerestory windows.

The main entrance door was replaced with an aluminum door, perhaps in the 1980s.

The interior of the 1904 building reveals much of the original and altered structure. Exposed wood beams, joists and posts are predominant throughout. In many areas these had been previously painted, though the paint is in poor condition. The solid brick bearing walls separating the parts of the building remain exposed, and in many parts of the building have been painted. Concrete block masonry walls surround the staircases, all of which were likely added and altered long after the construction of the

**United States Department of the Interior**  
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**National Register of Historic Places**  
Continuation Sheet

Section 7 Page 3

Lindsay-Bostrom Building  
Milwaukee, Milwaukee County, WI

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building. A few of the original steel industrial rolling firedoors remain in several locations. The flooring is largely 5-inch or 7-inch -wide pine, over a subfloor of the same materials, though some areas of the first floor are yet partly covered with maple, now largely damaged. Throughout, where flooring had previously been severely damaged it was covered with steel plating. No original or older lighting remains other than the more recent fluorescent lighting.

The western-most wing of the building is a two story utilitarian masonry and steel structure, added in 1920 by the A. George Schulz company for its paper box and container manufacturing business. It adjoins the older five-story building and occupies the balance of the block, fronting on W. Oregon St. to Second Street. The wing measures 100 by 105 feet. It has multiple-paned factory style steel windows, and is largely unaltered, except for replacement loading dock doors on Oregon Street. The masonry has long been painted.

Many of the changes to the building, including the removal of interior partitions, addition of doors at the second story on the track elevation and the construction of the two-story addition, were undertaken during the period of significance and reflect the needs of the building's owners and tenants. Despite the modifications to the building, the Lindsay-Bostrom Building retains a high degree of architectural integrity.



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**National Register of Historic Places  
Continuation Sheet**

Section 8 Page 1

Lindsay-Bostrom Building  
Milwaukee, Milwaukee County, WI

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Statement of Significance:

The Lindsay-Bostrom building is locally significant under Criterion A, in the area of invention, as the location of the invention and production of improvements in the field of agricultural technology. The Lindsay Brothers developed a self feeder for threshers and separators, with portions of the work occurring at this location. The Lindsay Brothers were further noted for fostering improvements and innovations in agriculture by bringing together the manufacturers and users of agricultural machinery. In this capacity the building is also noted for its association with emerging Milwaukee agricultural implement company Deere and Company, which rented space in the building and became a significant businesses in Milwaukee and Wisconsin. However, the building is most noted as the site of the invention of the Bostrom full-suspension tractor seat, an early industry leader in ergonomic design. Because of the broad span of time during which these innovations took place, the period of significance begins with the construction of the building in 1904 to the end of the 50 year period in 1951.

The Lindsay Brothers Company was a major agricultural implement and supplies jobber in the city of Milwaukee, and for some time was the largest non-manufacturing wholesaler in Wisconsin. The company built the new building in 1904 at 133 West Oregon Street to accommodate the shipping and warehousing operations of portions of their implement and twine trade, as well as for leasable space for manufacturers they represented including the Deere & Company, predecessor of the present John Deere Corporation. ("Building Permits." In Evening Wisconsin, July 28, 1904; City of Milwaukee Building Permits, July 27, 1904; Nov. 13, 1920; Milwaukee city directories.)

Upon completion of the Oregon Street building, Deere & Company, one of Lindsay Brothers' prime tenants of many years, moved in to the commodious showroom and office. Deere was one of the many implement manufacturers that Lindsay had been representing since its early years in their building on S. Second Street (Reed Street). The change of location for Deere's machinery was part of Deere's move in Eastern Wisconsin toward independent marketing and direct sales, apart from jobbers and wholesalers.

The building is also the location of the invention and production of the Bostrom suspension seat, the first free-floating suspension seat, for farm tractors, heavy trucks, and other equipment, developed and produced by the Bostrom Corporation in the building. The tractor seat was developed at the Bostrom laboratory at 133 W. Oregon in 1947, and first produced for the 1949 lines of the Oliver Corporation, a manufacturer of farm tractors and equipment. The seat went on to become the industry standard and was used in tractors, other farm equipment and trucks including those produced by J. I. Case, Co., Allis-Chalmers Corp. and Deere & Co., among others.

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**National Register of Historic Places**  
Continuation Sheet

Section 8 Page 2

Lindsay-Bostrom Building  
Milwaukee, Milwaukee County, WI

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Architecture

The Lindsay-Bostrom Building is situated just outside of the South First and Second Streets Historic District (NRHP), and reflects the scale and form of other buildings in that wholesale and manufacturing area. Stylistically, the building is a late commercial variation on the Romanesque Revival style. Its fenestration and general appearance is reminiscent of Adler and Sullivan's Walker Warehouse in Chicago, 1888-1889, a building which set the tenor for the design of many commercial and warehouse blocks to follow.

The Lindsay-Bostrom Building was designed by the prominent Milwaukee architect Charles D. Crane, during the last years of his career. After having worked in Chicago following the Great Fire, Crane came to Milwaukee in December 1874 and entered the firm of E. T. Mix, where he remained for twelve years. In 1888, he became a member of the firm of Crane & Barkhausen, architects, for several years before working on his own as an architect and engineer.

Crane designed several well-known buildings in Milwaukee, including Johnston Hall, the administration building of Marquette University. In addition, Crane & Barkhausen built more than a dozen large commercial, manufacturing and warehouse buildings in Milwaukee. Several of these are still extant, some in the Third Ward Historic District (NRHP), and two in the South First & Second Streets Historic District (NRHP).

The utilitarian, 1920 two-story concrete block and brick addition to the Oregon Street building was planned by architects Buemming & Guth. Herman W. Buemming had apprenticed with Milwaukee architect Charles A. Gombert, studied architecture at Columbia University, and worked for Stanford White and George B. Post before opening his practice in Milwaukee in 1896. Buemming also designed a Prairie Style house for A. Geo. Schulz Company vice-president George Weinhausen at 3306 W. Highland Boulevard in 1911.

Lindsay Brothers

Lindsay Brothers played an important role in the agricultural implement trade in Milwaukee, as well as throughout Wisconsin, Minnesota and the upper Midwest. The firm's founder was Edmond J. Lindsay, the son of Scottish immigrants who settled in Fox Lake, Wisconsin. After serving for a time as principal of the Fox Lake school, Edmond spent several years buying produce and selling agricultural implements in Fox Lake. In 1870 he was appointed agent for the Cayuga Chief Company, of Auburn, N.Y., and moved to Milwaukee to take charge of their agency there. In 1872, he and his brother

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Continuation Sheet**

Section 8 Page 3

Lindsay-Bostrom Building  
Milwaukee, Milwaukee County, WI

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William organized the firm of E.J. and William Lindsay. In 1884, two other brothers -- Henry and George I. -- were brought in, and the business became known as Lindsay Brothers. The business grew to become the largest of the non-production based agricultural implement and supply jobbers, or wholesalers, in the state, carrying the products of numerous large and small manufacturers located throughout the Midwest and beyond (Watrous 1909: 757-58).

William Lindsay and another brother, Thomas, also founded a Minneapolis-based companion, Lindsay Brothers Company, in 1886, which functioned in the same way as the Milwaukee company, though it eventually grew to have a much larger business in implement wholesaling and in plumbing supplies than the Milwaukee company. Prior to 1919, when the companies were formally separated, the Milwaukee company maintained the majority of supply contracts for the Minneapolis company.

In addition to being one of the largest implement wholesalers in Wisconsin, Lindsay Brothers played a significant role in helping to bring about innovations in agricultural implement designs. Often serving as a self-appointed guide and patron to smaller companies, Lindsay Brothers sought out the newest and best quality products, provided manufacturers with showroom space, advertised and promoted their products, and initiated and facilitated innovative designs for agricultural implements. Lindsay Brothers prided themselves on bringing the ideas of farmers and product users together with the inventiveness of manufacturers. By facilitating the exchange of information between user -- the farmer -- and manufacturer, Lindsay made possible the evolution and development of a number of farm implements.

Lindsay Brothers' chief means of promotion was through their catalogs and their salesmen in the field. Retailers and individual clients alike sought out their showrooms. Lindsay Brothers provided warehouse and display space to many of the implement manufacturers they represented. In 1910, they constructed a building in Minneapolis expressly for M. Rumely Company of LaPorte, Indiana, manufacturers of machinery for plowing, hulling and threshing. Other Minneapolis tenants included the Adland Company, Oliver Chilled Plow Works, Reeves Thresher and Avery Manufacturing Company. (Lindsay Brothers Company records, Minnesota Historical Society, 1910).

Lindsay Brothers in Milwaukee never moved far from where they had originally set up business. The company had leased two buildings in the Third Ward that were destroyed in the great fire. Subsequently, the company built its main building, beginning in 1892 in several sections over several years on South Second Street.

In Milwaukee, the Oregon Street building was built, in part for the John Deere Company, which moved in immediately upon its completion. No records of the agreements between Lindsay Brothers and Deere have yet been found. However, it is likely that, as in the case of the Minneapolis building, they

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Continuation Sheet

Section 8 Page 4

Lindsay-Bostrom Building  
Milwaukee, Milwaukee County, WI

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built, in part, for the Rumely Company, Lindsay Brothers designed and built the Oregon Street building according to their future tenant's detailed specifications (Lindsay Brothers Company Records, Minnesota Historical Society, 1910). Since their primary tenants did not always fully occupy the buildings, Lindsay leased the balance of the space to other companies. Between 1904 and 1920, when Lindsay sold the Oregon Street building, other tenants included Lutter & Jacobi (an agricultural implements dealer), the National Aniline & Chemical Company (a dye supplier), Apex Flour, and box manufacturer A. George Schulz Company.

From 1904 until 1920, a major occupant of the Oregon Street building was the Milwaukee Transfer and Storage Company -- the shipping and building management business for Lindsay Brothers. This branch of the company was managed by Edmond J. Lindsay, Jr. Through the Milwaukee Transfer and Storage Company, the Lindsay-Bostrom Building served as local delivery headquarters of the products it carried, a significant one of which was binder twines by Plymouth Cordage, one of the largest twine and cordage makers in the world, of which Lindsay was a significant stockholder. Lindsay had first bought 3,000 pounds of Plymouth Cordage products in 1883, shortly after that company began producing twine and cordage for farm use. Lindsay's orders increased significantly over the next several years, and in the early 1890s Lindsay invested heavily in the company. By the 1920s, Lindsay's sales of twines and cordage had increased to over 50,000,000 pounds. Lindsay possessed exclusive sales rights in Wisconsin, Michigan, Indiana, Ohio, Illinois, Iowa, Minnesota, North and South Dakota, part of Nebraska, and the entire Canadian grain belt, holding as much as 80 percent of the cordage market within its distribution region. The sale of cordage and twine constituted Lindsay's largest source of income, followed by the wholesaling of agricultural implements and supplies. Revenue from the twine and cordage business permitted Lindsay to make additional investments and experiment with new agricultural products.

While Thomas Lindsay managed the Minneapolis company, brothers Edmond and William oversaw many of the contracts with manufacturers, suppliers and vendors. William Lindsay was also involved in building construction, investments, sales, and, to some extent, product development. Lindsay Brothers touted their own innovations to various products that they carried, and attached the Lindsay name to some of these products, including a bicycle with a pneumatic spring, a lawnmower, and a fanning mill.

William Lindsay also developed several innovations in the design of a self feeder -- an armature attached to threshers and separators -- which was claimed by many manufacturers to be superior. William first began the development of his feeder in about 1901, and experimented over the years until the final refinements were honed in 1910. In that year there was notable activity in testing his newest developments by means of customer trials. Some of the work took place in a workshop in the Oregon

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Continuation Sheet

Section 8 Page 5

Lindsay-Bostrom Building  
Milwaukee, Milwaukee County, WI

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Street building "far from the prying eyes" of manufacturers' representatives, who frequented the Lindsay offices and showrooms on Second Street.

It was also in 1910 that the patenting of the self-feeder was planned. There was some concern that the innovations would be adapted by implement manufacturers, and an opportunity to further profit from the work would be lost. During this time, outside sales representatives for Lindsay products, as well as a few customers who had previously bought threshers or separators, were invited to view the examples at the workshop. Some buyers were encouraged to allow the company to update their previously purchased Lindsay feeders. Lindsay Brothers oversaw the custom alteration of the Lindsay feeder, as well as of newly manufactured equipment made by other companies in order to accept the Lindsay feeder. Some of the parts were custom built or modified by Belle City Manufacturing Co. of Racine, a manufacturer of threshers and other farm equipment, and others were made by Russell & Company of Massillon, Ohio (Lindsay Brothers Company correspondences, Jost collection, Milwaukee, WI.).

William Lindsay sought a patent for his innovative feeder in 1911, though by the time the patent was finally granted in 1916, other manufacturers had copied some of the improvements. Lindsay's innovations included new designs for swinging carriers, distributing knives, governors, wider belts, tailings pan, and disappearing rake forks, among others. They made operating a thresher simpler and reduced the amount of time and muscle-power required, resulting in increased productivity. The Lindsay self feeder was an extremely profitable venture for the company. In the early 1920s it was sold to Russell & Company, a company that Lindsay had represented for decades. (Government Printing Office, Official Gazette of the United States Patent Office, Volume CCXXVIII, July, 1916, Washington; Interviews with Hugh Lindsay and Stuart Lindsay.)

The Minneapolis and Milwaukee-based Lindsay Brothers companies became increasingly independent from each other, particularly in 1917, following the death of Thomas Lindsay, the managing partner of the Minneapolis company. That company became incorporated in 1917 and the Milwaukee-based company incorporated the following year.

Over the years, Lindsay Brothers also ventured into marketing a number of other products, including carriages, farm wagons, bicycles, automobiles, school buses, grain storage and handling systems, refrigeration systems, and plumbing and heating supplies and equipment, although it always maintained the greater part of its business in farm implements and supplies. ("Lindsay Dynasty", View Magazine, April 30, 1972, p. 5-6.)

After the Lindsay Brothers company reorganized in 1919, functions of the company housed at the Oregon Street building were moved to the South Second Street Building. The Oregon Street building

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Continuation Sheet

Section 8 Page 6

Lindsay-Bostrom Building  
Milwaukee, Milwaukee County, WI

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(the subject of this nomination) was sold in 1920. The company quit the cordage business in 1961, due to the increased use of baling wire. The company sold its Second Street building in 1988 and was dissolved in 1991. The Minneapolis-based Lindsay Brothers Company was also dissolved in the 1980s.

John Deere Company

The Oregon Street building also served the John Deere Company during an important stage of its growth in Wisconsin. Since the 1870s, Deere & Company had relied on a system of branch houses, or distribution centers. Located throughout the agricultural belt, the branch houses bridged the gap between farmer and factory. At first, each house carried a complete line of plows adapted to the soil conditions of its territory. Later, as the company expanded its production, the distribution centers also carried cultivators, corn planters, and other farm implements (John Deere 1954: 8).

Deere occupied the premier location in the Lindsay building at S. First (Clinton) and Oregon streets. In 1907, at the request of Deere, Lindsay Brothers undertook the restructuring of the building to remove the load-bearing masonry wall separating the two sections of the building nearest Clinton Street to provide Deere with a large single showroom and storage spaces. (Correspondences, Minnesota archives).

Upon completion of the building, Deere moved from the Lindsay building on South Second Street (then Reed Street), which it had leased since 1892. In the Oregon Street building, Deere first occupied the prime corner, or east end, space fronting on First Street (then Clinton Street), and subsequently took over other spaces within the building. From 1904 until 1912, the John Deere Company used the building for its Milwaukee showroom and distribution center.

During the period of its association with Lindsay Brothers, the John Deere Company grew from one of many implement companies represented by Lindsay Brothers to a formidable competitor in state and regional trade. In 1911, Deere and Lindsay dissolved their agreements and Deere fully assumed its own distribution functions. Deere then moved their sales office into leased space in the Walsh building, next door to Lindsay's main building, at South Second and Seeboth streets, though they retained leased space in the Lindsay building on Oregon Street for several years. The John Deere Company became increasingly competitive, and in 1913 it tried to buy distribution rights directly from Plymouth Cordage, in which Lindsay was a chief partner -- a bid which Deere lost. In 1921, the John Deere Company bought a building on Second Street, which they occupied until 1958.

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Continuation Sheet**

Section 8 Page 7

Lindsay-Bostrom Building  
Milwaukee, Milwaukee County, WI

A. George Schulz Company

In 1920, A. George Schulz Company, a box manufacturer, which had been a Lindsay Brothers tenant since 1912, bought the Oregon Street building. Schulz added the two-story wing. Between this facility and another on Clybourn Street, Schulz employed over 600 people. Schulz owned the building until early in 1947, when they sold it to the Bostrom Corporation.

Bostrom Corporation and the Bostrom Suspension Seat

The Bostrom Suspension Seat, an innovation developed by the Bostrom Corporation, was first developed and manufactured at the building at 133 West Oregon Street. Bostrom Suspension Seats represented a significant innovation in tractor seat design. By isolating the operator from the vehicle vibrations, Bostrom seats improved operator comfort and safety. Incidentally, they increased productivity by extending the driver's endurance. The Bostrom Suspension Seat rapidly became the industry standard, and is still used on most tractors and large trucks produced today.

The Bostrom company's origins date back to 1932, when Swedish immigrant John Bostrom and his nephew Harold Bostrom founded an upholstery business in Milwaukee. Harold Bostrom took note of a tractor seat cover that was being produced for the Allis Chalmers Corporation, and in 1937 landed a contract to supply padded tractor seat covers to the Allis Chalmers Corporation. He then developed a detachable seat pad that the farmer could remove to keep the seat dry. John Bostrom died in 1935, and Harold Bostrom ran the business alone until 1941, when his brother, Karl, joined him (American Friends of the Emigrant Institute 1988: 22-29).

Prior to the development of the Bostrom Suspension Seat, tractor seats had consisted of a metal pan fitted with a padded cover and mounted on a spring bar. Such seats did little to soften the intensity of vibrations coming through the seat to the operator, and even magnified them. This became a significant problem when tractor speeds increased and rubber tires were introduced in the 1930s. Riding over rough or frozen ground inflicted heavy physical punishment on tractor operators.

During the war years, Allis Chalmers' sales had slowed, and Harold Bostrom began addressing the problems of comfort and back injury reduction in designing a new seat. He became aware of the work of Albert F. Hickman, of Eden, N.Y., who had received a patent in 1929 for the first pneumatic truck seat, a concept not fully developed until the 1950s. In 1941, Hickman was hired as a consultant for the Bostrom Corporation. In 1947, Hickman, together with Bostrom's research and design department, made a break-through in the use of electronic precision technology to solve problems in the development of a new model of the suspension seat (Ullrich 1977).

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Fueled by increased orders for their detachable seat following the war, Bostrom moved into the building at 133 W. Oregon in 1947. It was in this building that the Bostrom Corporation began development work on a new model of tractor seat in late 1947. The resulting Bostrom Suspension Seat was developed and manufactured in the Oregon Street building. The development work took place in the engineering department, which, according to the best recollection of former Vice President Dick Whiting, was located on the fourth floor, but production took place all over the building (Harold Bostrom, interview, May 1, 2000; Dick Whiting, interview, May 8, 2000).

The Bostrom Suspension Seat, considered a revolutionary development at the time, combined a compact leverage system with a rubber torsion spring that had been adapted from a large rubber bearing made by the U.S. Rubber Corporation. This design allowed the seat to move independently from the vehicle and brought the vibration frequency of the seat suspension under the frequency of the vehicle itself, which is approximately 3 1/2 cycles per second. The low vibration rate was essential for isolating shock before it reached the operator (Bostrom 1966).

Bostrom was convinced that comfortable seats, which reduced the potential for back injury, would help to sell tractors. As soon as he had a marketable design, Bostrom entered into an agreement to provide seats to the Oliver Corporation, a tractor and farm implement manufacturer based in Charles City, Iowa (American Friends of the Emigrant Institute 1988: 31). Oliver had been one of the smaller tractor manufacturers that vigorously pursued innovation to offset competition from larger manufacturers. Oliver's chief engineer, Louis Gilmer, was known to have sought out the innovations of other companies, and helped usher in Oliver's Fleet Line series models 66, 77, and 88 -- the first tractor line to incorporate the Bostrom suspension seat. (Jim Gardner, grandson of Louis Gilmer, Correspondence, May 15-16, 2000).

The development of the seat reflected the newly emerging field of ergonomics, also known as Human Factors Engineering. One of the main objectives of the field was to describe the relationship between humans and technology, including the interaction with products, equipment, procedures, and the environment. By understanding these relationships, designers hoped to increase the productivity of humans interacting with machines and to increase the comfort and safety of the machine user. While such relationships were explored early on to improve worker productivity, the emphasis at the time was on the fitting of the person to the job. The formal application of the theories only became widespread during World War II. As machines became more complex, such as airplanes, greater emphasis was placed on the machine's interaction with the user. The user could increasingly compromise the machine's efficiency through fatigue, or bad or confusing design; the weakest link in the system was the human. As a result, designs evolved that better fit the machine to the user. Almost all human factors research during and immediately after the war was military in nature or military sponsored.



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Following the war, more studies examined the adaptation of the environment to the person. In the twenty years after the war the field expanded, drawing in psychologists, industrial designers and engineers. And, as time went on, the connection with engineering became more firmly established. (David Meister, The History of Human Factors and Ergonomics, 146-156.) The field also changed. In the early days, the emphasis was on human productivity and work physiology. Over time, other objectives also came to the forefront, including creating a safer and healthier working environment and improving the quality of working life. The Ergonomics Society was initially formed on 12 July 1949 with a meeting at the British Admiralty. At this meeting a group called the Human Research Group was formed. The development of the Bostrom seat reflects this developing field in exploring the relationship between design and use.

In January of 1949, Bostrom began production on the Model K, as it was called, for Oliver's full line of tractors. Oliver named it the "Ridemaster" seat and prominently featured it in the company's advertising campaign as a revolutionary development in tractor seat design. Some magazine ads even featured engineered diagrams of the seat. Oliver won several awards for their advertising campaign.

Oliver had attained the lead in its introduction of the seat, and its competitors soon followed behind. Numerous other companies soon launched their versions of adjustable and comfortable seats, though Bostrom's seat held the lead over the competition, and were adapted for use by other agricultural implement and motor vehicle companies.

The seat was so popular that Bostrom developed kits for retrofitting existing equipment for the new seat. Although there were other seats on the market, Bostrom's seats were used by most of the large agricultural implement companies, accounting for ninety percent of the market share (Ullrich 1977; Silvers 2001).

Subsequent models of the seat were developed for use in heavy trucks and sold under a variety of brand names, including the "Viking T-Bar" and "Nordic-Air," in honor of Harold Bostrom's Swedish ancestry. Since 1949, numerous adaptations were made to the original Bostrom seat and have been sold to every major farm tractor and truck company in the United States and many in Europe.

Through its innovative engineering design, the Bostrom suspension seat markedly increased the comfort and safety of tractor and truck operators. This, in itself, was an innovative concept at the time. According to Karl Bostrom, the Bostrom Corporation was one of the first manufacturers to explicitly consider the man-machine relationship to be an important factor in equipment design (Bostrom 1966).

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The Bostrom Corporation emerged as one of the early participants in the developing field of human factors research, a field encompassing ergonomics. In the 1950s, the company's Director of Engineering, Mr. A. K. Simons, and two former directors of the Bostrom Corporation's research laboratory were among the founding members of the Human Factors Society. Human factors research was accelerated by human limitations in high-speed aircraft during World War II. The Bostrom Corporation established its own human factors research laboratory, which received funding from the U.S. Army and was a model for later developments in the field (Bostrom 1966).

On October 25, 1967, Karl Bostrom presented models of the original Bostrom suspension seats for a farm tractor and a truck to the Smithsonian Institution, Museum of History and Technology. The seats were accepted by Curator John Schlebecker as "innovations in technology" (UOP Bostrom Division 1967) and remain in the Smithsonian collections (Larry Jones, interview, April 18, 2000).

In 1967, when it was sold to Universal Oil Products, Inc. of Des Plaines, Ill., the Bostrom company was still the leading supplier of suspension seats for trucks, farm tractors and earth-moving equipment. In 1984-1985, the Bostrom Division headquarters were relocated from the Oregon Street location to 3326 Layton Ave., Cudahy, and in 1988, it joined the main manufacturing plant in Piedmont, Alabama. At various times, the Bostrom Corporation also owned manufacturing plants in Pennsylvania, North Carolina, South Carolina, England, and Belgium. At its zenith, Bostrom employed 1,000 workers. Its customers have included J. I. Case Co. (Racine, WI), Allis-Chalmers Corp. (West Allis, WI), John Deere & Co. (Moline, Ill.), International Harvester, Caterpillar, Ford, General Motors, Mack, White and other major manufacturers of trucks, buses, agricultural, and earth-moving equipment (Kurschner 1988). The company continues in business, as Bostrom Seating, owned by Transportation Technologies Industries, Inc. (TTII) and headquartered in Piedmont, Alabama. The Bostrom Seat remains the industry standard.

**Harold Bostrom**

Outside of the business, Harold Bostrom was a noted philanthropist. He contributed heavily to his favorite cause of population growth and education, with substantial contributions to Planned Parenthood and the construction of the library of University Lake School in Hartland, Wisconsin. Harold Bostrom also served on the board of directors of Gustavus Adolphus College in St. Peter, Minnesota.

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**Summary**

The Lindsay-Bostrom Building is locally significant under Criterion A, in the area of invention, as the location of continued invention and production of improvements in the field of agricultural technology. The period of innovation began with the opening of the building in 1904 and its use by William Lindsay for developing improvements in the design of a self feeder for threshers and separators. In addition, Lindsay Brothers sought to foster improvements in agricultural technology by bringing together manufacturers of farm implements and their users. This trend is further represented by Lindsay's tenant Deere and Company, which had a large showroom in the building and whom Lindsey represented at this location from 1904 to 1911. The Lindsay-Bostrom Building continues to represent significance in the area of invention through the historic period, concluding in 1951, with the invention and early production of the Bostrom full-suspension tractor seat, which became an industry standard for both tractor and heavy truck seat design. The improvements made to the tractor seat further represent the ideals of the evolving discipline of Human Factors Engineering, or ergonomics. Because of the direct relationship between these important improvements in agricultural technology and this building, the Lindsay-Bostrom Building is eligible for listing under Criterion A.

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**Verbal Boundary Description**

City of Milwaukee, Walker's Point Plat, in NE ¼ SEC 32-7-22, Block 17, Lots 1 and 2, except ROW  
– N 100' (lots 3, 4 & 5) and N 98' (lots 6 & 7).

**Boundary Justification**

This is the parcel historically associated with the property.



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**Photographs**

Lindsay-Bostrom Building  
133 W. Oregon Street, Milwaukee, Milwaukee Co., WI

All Negatives: State Historical Society of Wisconsin

1. First Street façade, east elevation (facing west)  
by Eric Oxendorf, June 2000
2. Oregon Street façade 1, north elevation (facing south)  
by Eric Oxendorf, June 2000
3. Oregon Street façade 2, north elevation (facing south)  
by Eric Oxendorf, June 2000
4. Oregon Street façade 3, north elevation, (facing south)  
by Eric Oxendorf, June 2000
5. Second Street façade, west elevation, (facing east)  
by Eric Oxendorf, June 2000
6. Rear façade, south elevation, (facing north)  
by Eric Oxendorf, June 2000
7. First Street façade, east elevation, (facing west)  
by Gary Tipler, August, 2000
8. Terra cotta capital detail, on north elevation (facing southwest)  
by Gary Tipler, August, 2000
9. 1904 building, typical interior, 5<sup>th</sup> floor (facing southwest)  
by Gary Tipler, August, 2000  
State Historical Society of Wisconsin
10. 1920 wing, typical interior, 2<sup>nd</sup> floor (facing northwest)  
by Gary Tipler, August, 2000