VILLAGE OF DOWNERS GROVE
ARCHITECTURAL DESIGN REVIEW BOARD
NOVEMBER 15, 2017 AGENDA

SUBJECT:	TYPE:	SUBMITTED BY:
17-ADR-0011 1324 Maple Avenue	Designation of a Historic Landmark	Swati Pandey Planner

REQUEST
The petitioners are seeking a Historic Landmark Designation for their home at 1324 Maple Avenue based on the criteria that the property has significant value for the following reasons: 1) is part of the historic characteristics of the community; 2) was owned by a person of historic significance to the nation, 3) represents the notable work of a master builder.

NOTICE
The application has been filed in conformance with applicable procedural and public notice requirements.

GENERAL INFORMATION

OWNER/ APPLICANT: David and Joan Kresl
1324 Maple Avenue
Downers Grove, IL 60515

PROPERTY INFORMATION

ARCHITECTURAL STYLE: Georgian
BUILDING DATE: 1936
HISTORICAL BUILDING USE: Single Family Residence
EXISTING BUILDING USE: Single Family Residence
PROPERTY SIZE: 20,109 square feet (0.46 acre)
PINS: 09-07-408-011 and 09-07-408-012

ANALYSIS

SUBMITTALS
This report is based on the following documents, which are on file with the Department of Community Development:

1. Application/Petition for Public Hearing
2. Project Narrative
3. Certificate of Acknowledgement Form
4. Historic Landmark Information Form
5. Photographs

PROJECT DESCRIPTION

The petitioners are seeking a Historic Landmark Designation for their property at 1324 Maple Avenue under criteria 12.302 of the Historic Preservation Ordinance. Based on the information submitted, the property qualifies to be landmarked under the following multiple criteria:

- the property has significant value as part of the historic, heritage or cultural characteristics of the community.
- the property was owned and occupied by a person of historic significance to the community.
- representation of a notable work of a master builder

The two-story Georgian house with a basement was constructed in 1936 as part of a national architectural competition held by General Electric. The competition was in response to the 1933 Chicago World's Fair, in an effort to showcase new innovations in home construction. The house was built as part of the model home project undertaken by General Electric in partnership with the Federal Housing Authority. The selected "New American" homes featured modern design and open layout for contemporary living as well as advanced appliances for higher living standards. The house at 1324 Maple Avenue was one of the seven homes built and the only one in Downers Grove, significantly contributing to the history of the community. The ground breaking ceremony for the house was attended by the Mayor of Downers Grove.

The house was constructed by J.T. Schless Construction Co., the same builder of the Tivoli Theatre. The Tivoli Theatre first opened on Christmas Day in 1928 and was the second theatre in the country to open with sound movies, remaining a building of great significance to the community. In addition to homes, the Schless Construction Company was responsible for building major commercial buildings and community service projects such as schools, churches and shipyard in the Chicago area. The Company contributed buildings to "The Century of Progress Exposition" in Chicago in 1933 and again in 1939 for the New York World's Fair.

Over the past 81 years, seven families have lived in the home including a person of historic significance to the nation. The third owner of the house, Dr. William P. Jesse (1881-1984) was an eminent scientist who lived in the house between 1950 to 1974. He was a research associate at the University of Chicago's Metallurgical Laboratory during the Manhattan Project. Dr. Jesse moved on to the Argonne National Laboratory where he began making accurate measurements of W, the energy required to produce an ion pair. A result of this research is known as the "Jesse Effect and Related Phenomena". He was a pioneer in the field of physics with several major contributions in the area of research. He was honored with a symposium for his contribution sponsored by the U.S. Atomic Energy Commission at Gatlinburg, Tennessee in 1973.

Based on the information provided by the petitioner, the front façade of the house has remain unchanged during the history of this house including the color. The primary materials for the house are brick and concrete block with a gabled slate tile roof and original copper gutters.

COMPLIANCE WITH HISTORIC PRESERVATION ORDINANCE

The petitioner has outlined the request in the attached narrative letter, excerpts from books, newspaper articles and photographs. The petitioner will further address the proposal and justification to support the requested landmark designation at the public hearing.

Landmark designations require evaluation based on Section 12.302 of the Historic Preservation Ordinance, *Landmark Designation Criteria*. Staff finds the request complies with Section 12.302A and Section 12.302.B, as described below.

Section 12.302.A.
The proposed landmark is either over fifty (50) years old, in whole or in part, or is under fifty (50) years of age and possesses exceptional importance such as might be recognized immediately for its reflection of an extraordinary political event or architectural innovation; and
The house was constructed in 1936 and is 81 years old. This standard is met.

Section 12.302.B
That one or more of the following conditions exist:

1. **The property has significant value as part of the historic, heritage or cultural characteristics of the community, county, State or Nation;**
   Staff finds that the property has significant value as part of the historic characteristics of the community. The house was one of seven model homes in the General Electric national architectural competition, and featured modern innovations including convenient layout and advanced appliances. It was featured in the 1935 edition of the Downers Grove 'Reporter'. This criteria has been met.

2. **The property was owned by a person or persons of historic significance to the community, county, State or Nation;**
   Staff finds the property was built and owned by a person of historic significance to the nation. Dr. William P. Jesse was an eminent scientist who lived in the house. He was a research associate at the University of Chicago's Metallurgical Laboratory during the Manhattan Project and contributed significantly through scientific research including the discovery of the "Jesse Effect and Related Phenomena" in 1952. This criteria has been met.

3. **The property represents the distinguishing characteristics of an architectural period, style, type, method of construction or use of indigenous materials;**
   This criteria does not apply.

4. **The property represents notable work of a master builder, designer, architect or artist whose individual work has influenced the development of the community, county, State or Nation;**
   Staff finds that this property represents notable work of J.T. Schless, a master builder. Mr. Schless was a prominent builder in Downers Grove who was responsible for a variety of residential and commercial buildings in the village and DuPage County. His notable work includes the Tivoli Theatre that still stands at 5021 Highland Avenue. Additionally, he was involved with the Chicago Exposition of 1933 and the New York World's fair in 1939. Mr. Schless contributed to the development of the community. This criteria is met.

5. **An area that has yielded or may be likely to yield, information important in history or prehistory.**
   This criteria does not apply.

6. **A source of civic pride or identity for the community.**
   This criteria does not apply.

7. **The property is included in the National Register of Historic Places.**
   This criteria does not apply.

NEIGHBORHOOD COMMENT

Staff has not received any inquiry from the public regarding the proposal at this time.

RECOMMENDATIONS

Staff finds the petition complies with the criteria in Section 12.302 for Landmark Designation. Based on the findings above, staff recommends that the Architectural Design Review Board make a positive recommendation to the Village Council for landmark status of 1324 Maple Avenue.

Staff Report Approved By:

Stan Popovich, AICP
Director of Community Development

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-att
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1324 Maple Avenue - Location Map

Historic Landmark
Project Summary/Narrative

Owners/Applicants: David and Joan Kresl

It is with a great deal of respect that we present our home, located at 1324 Maple Avenue, for consideration as a designated Downers Grove Historic Landmark.

In 1933-34, Chicago hosted 40 million visitors to it's second World's Fair. Following the turmoil associated with WWI and the stock market crash of 1929, the fair drove home the message that cooperation between science, business and government could pave the way to a better future. What better way to advance public awareness of new innovations than through the construction of model homes outfitted with year-around air-conditioning, centrally controlled heating, complete electric kitchens, home laundries, modern lighting and up-to-date wiring built in as part of the initial equipment.

Following the fair, the General Electric Company in co-operation with the Federal Housing Administration conducted a national architectural competition to advance home design and present scientific solutions to the problems associated with contemporary housing.

Seven homes were chosen, one to be located at Brookbank and Maple in Downers Grove. Designed by Robert H. Salisbury, Architect, Wheaton, and built by J.T. Schless Construction Co., Downers Grove and Chicago, the home was completed and ready for a 3 day public inspection on Sunday, October 27 of 1936. To underscore the significance of this home, please refer to the picture of the groundbreaking included in the July 13, 1988 edition of the Downers Grove Reporter. Present are Downers Grove Mayor Henry Diecke; Bob Salisbury, architect; Mr. Schless, builder; R. Cooper Jr.; and Mr. Fridstein of R.Cooper Jr. Electric.

Of special interest is the fact that Willis Johnson, owner of the Tivoli Theater, has confirmed the fact that J.T. Schless Construction Co., also built the Tivoli in 1928. It is no wonder that the home located at 1324 Maple Avenue remains a very sturdy structure to this day.

Over the past 81 years, 7 families have lived in the home. The first Warranty Deed, dated August 22, 1935, names the Grantor as Mary Ducat Sellers. She sold 4 lots of the Assessment Plat of the Homestead Estate of Arthur C. Ducat, to Sedwin and Mabel Rekstad. It is interesting to note that in the Downers Grove Telephone Directory of June, 1936, J.T. Schless is listed as the resident at 1324 Maple Avenue. In the July 1937 directory, his residency appears to have moved to 4101 Main Street. During this same period, Sedwin Rekstad's residence is listed as 4512 Sherwood Court and there is no evidence of the Rekstad's actually living in the home. On January 10, 1940, the Rekstad's sold the property to Irwin and Sonia Spiesman. Several years ago I located a Robert Schless living in St. Charles. He indicated that he lived in the home when he was 2 years old, shortly after his father's company completed construction. It is clear that the Rekstad's owned the property, but who actually lived in the home on a continuous basis from October 1936 to January 1940 remains a mystery.

Subsequent owners were Irwin and Sonia Spiesman (1940), William and Anna Jesse (1950), William and Eloise Grace (1952), Charles and Carolyn Thompson (1974), Stephen and Theo Grote (1975), and David and Joan Kresl (1976).

Of historical significance is the fact that the third owner was non other than Dr. William P. Jesse, a research associate at the University of Chicago's Metallurgical Laboratory during the Manhattan Project. In 1943 he served as a group leader in Control and Instrumentation. In 1944 he became Section Chief of P-I, Instrumentations, in the Physics Division. In 1945 he became Section Chief of P-II Treatments. Dr. Jesse also is recognized for his research that culminated in the discovery of the Jesse Effect and Related Phenomena in 1952. Prior to Dr. Jesse's death in 1975, he was honored with the "Symposium on Jesse Effect and Related Phenomena," Gatlinburg, Tennessee November 9-10, 1973. This symposium was sponsored by the U.S. Atomic Energy Commission.

The home is made of brick, with a slate tile roof and the original copper gutters. The home has remained white in color over its 81 years, and its roadside appearance has not changed. Most people associate its architectural design as Georgian.

1324 Maple Avenue is an excellent example of a home design that has not only provided a pride of ownership to its owners but has added to the ambiance of this historic neighborhood. The inclusion of this property to the list of local Historic Landmarks will ensure that it is preserved not only for future owners, but for residents of Downers Grove and future visitors to the area.

Landmark Designation Criteria

Section 12.302.A
The proposed landmark is either over fifty (50) years old, in whole or in part or is under fifty (50) years of age and possesses exceptional importance such as might be recognized immediately for its reflection of an extraordinary political event or architectural innovation

The proposed landmark is approximately 81 years old and meets the criteria.

Section 12.302.B
1. The property has significant value as part of the historic, heritage or cultural characteristics of the community, county, State or Nation;

Built after the 1933 World's Fair in Chicago, 1324 Maple Avenue was part of a national architectural competition sponsored by General Electric Company with co-operation from the Federal Housing Authority. The competition was intended to advance home design and present scientific solutions to the problems associated with contemporary housing. 1324 Maple Avenue was one of seven homes chosen (and the only one located in Downers Grove) and therefore is of significant value to the characteristics of the community.

2. The property was owned by a person or persons of historic significance to the community, county, State or Nation;

The third owner of the home, Dr. William P. Jesse, was a research associate at the University of Chicago's Metallurgical Laboratory during the Manhattan Project. Jesse served in several leadership positions as part of this and is also recognized for his research that led to the discovery of the Jesse Effect and Related Phenomena in 1952. The Jesse Effect is "the increase in ionization observed when impurities are added to certain gases" (http://aip.scitation.org/doi/abs/10.1063/1.1678247).

3. The property represents the distinguishing characteristics of an architectural period, style, type, method of construction or use of indigenous materials;

This criteria does not apply.

4. The property represents notable work of a master builder, designer, architect or artist whose individual work has influenced the development of the community, county, State or Nation;

1324 Maple Avenue was built by J.T. Schless Construction Co. who was also the builder of the Tivoli Theater in Downers Grove. The Tivoli Theater was only the second theater in the United States to be designed and built for talking movies and remains today one of the most beloved buildings in the community. Schless's involvement in the construction of the Tivoli makes him a notable builder whose work has had a significant influence on the development of Downers Grove.

5. An area that has yielded or may be likely to yield, information important in history or prehistory.

This criteria does not apply.

6. A source of civic pride or identity for the community.

This criteria does not apply.

7. The property is included in the National Register of Historic Places.

This criteria does not apply.

Historic Landmark Information Form

Property Address 1324 Maple Avenue, Downers Grove, IL 60515

Date of Construction 1936

Architectural Style Georgian

Architect (if known) Robert H. Salisbury

Number of Stories 2 **Basement (Y/N)** Y

Foundation Materials (Concrete, Concrete Block, Wood, Stone, Brick, N/A)

Concrete block, Brick

Exterior Wall Materials (Concrete, Wood, Stone, Brick, Vinyl, Other, N/A)

Brick

Roof Type (Gabled, Cross-Gabled, Hipped, Hipped-Gable, Shed, Gambrel, Flat, Other, N/A)

Gabled

Roof Materials (Metal, Wood Shingle, Wood Shake, Composition, Slate, Tile, Other, N/A)

Slate Tiles

Window Type (Double-Hung, Awning, Casement, Hopper, Other, N/A)

Double-Hung

Window Materials (Wood, Aluminum, Vinyl, Other, N/A)

Wood

Door Type (Panel, Flush, Transom, N/A) and Materials (Wood, Metal, Glass, N/A)

Wood Panel

Other significant exterior architectural features (Accessory Structures, Arches, Porches, Towers, Brick Course, etc.)

Photo #1: Front Elevation - Oct 5, 2017

Photo #2 Front Elevation - Oct 5, 2017

Photo #3: Original hall fixture Oct 5, 2017

Photo #4: J.T. Schless Co plate on foundation
Oct 5. 2017

Photo #5: Original bookcase Oct 5, 2017

Photo #6: Walnut mantle Oct 5, 2017

Photo #7: Bay Window in dining room Oct 5, 2017

J.T. Schless – builder of 1324 Maple Avenue

REGISTRATION CARD—(Men born on or after April 28, 1877 and on or before February 16, 1897)

SERIAL NUMBER	1. NAME (Print)	ORDER NUMBER
U 1037	J. T. Schless (First) (Middle) (Last)	

2. PLACE OF RESIDENCE (Print)
4101 Main St. Downers Grove, DuPage, Ill.
(Number and street) (Town, township, village, or city) (County) (State)

[THE PLACE OF RESIDENCE GIVEN ON THE LINE ABOVE WILL DETERMINE LOCAL BOARD JURISDICTION; LINE 2 OF REGISTRATION CERTIFICATE WILL BE IDENTICAL]

3. MAILING ADDRESS
Same
(Mailing address if other than place indicated on line 2. If same insert word same)

4. TELEPHONE	5. AGE IN YEARS	6. PLACE OF BIRTH
D.G. 1026 (Exchange) (Number)	52 DATE OF BIRTH Sept. 14, 1889 (Mo.) (Day) (Yr.)	Philadelphia (Town or county) Pa. (State or country)

7. NAME AND ADDRESS OF PERSON WHO WILL ALWAYS KNOW YOUR ADDRESS
Mrs. J. T. Schless, 4101 Main St., Downers Grove, Ill.

8. EMPLOYER'S NAME AND ADDRESS
Own business, 176 W. Adams, Chicago

9. PLACE OF EMPLOYMENT OR BUSINESS
176 W. Adams St., Chicago, Cook, Ill.
(Number and street or R. F. D. number) (Town) (County) (State)

I AFFIRM THAT I HAVE VERIFIED ABOVE ANSWERS AND THAT THEY ARE TRUE.

J. T. Schless
(Registrant's signature)

D. S. S. Form 1
(Revised 4-1-42) (over)

16—21630-2

J.T. Schless – WWII draft registration card

JACOB T. SCHLESS

Special to The New York Times.

CHICAGO, Nov. 23—Jacob T. Schless of suburban Downers Grove, a building contractor, died yesterday in his home. His age was 66.

Mr. Schless built Merrie England, a British village, for the "A Century of Progress" here in 1934 and again for the New York World's Fair in 1939. From 1943 to 1945 he managed the Dachel Carter Shipbuilding Company, Benton Harbor, Mich., for the Navy.

The New York Times
Published: November 24, 1955

J.T. Schless – Obituary

Schless Construction Company

from the web site Illinois Constructors Corp http://www.illinoisconstructors.com/about/
Building on the past to construct the future.

In the mid-1920s, a young resident engineer named Jacob T. (Jack) Schless left the prestigious Chicago architectural firm of Holabird & Root to strike out on his own.

For the next 30 years until his death at the age of 66, Jack Schless would build buildings, manage construction projects, fulfill building contracts, and lay the foundation for what is today the Illinois Constructors Corporation.

Forming J.T. Schless and Company, Jack Schless was responsible for major building projects in the burgeoning DuPage County of the late 1920s. As Chicagoans were lured to the wide open spaces of the far west suburbs that blossomed along the tracks of the Chicago, Burlington & Quincy Railroad, Schless's Downers Grove company seized the opportunity to build houses and schools and become involved in community service projects. From building a Girl Scout cabin in 1926, to constructing a model home as part of General Electric's national Better Housing campaign in 1935, J.T. Schless and Company left an indelible mark on the community.

In 1928, the company completed construction of Sacred Heart Academy in Lisle, a building whose roof is a beacon that is visible for miles today. Another huge commercial project was the Tivoli Hotel and Theatre complex, complete with bowling alley and billiards parlor, in downtown Downers Grove. When it was completed, 4,000 theatergoers lined up for the premier performance at 1:30 in the afternoon, December 25, 1928. Today, the 1,011-seat Tivoli Theatre is a cherished landmark. It has been renovated and restored to its former glory.

The 1930s brought both success and new challenges to the fledgling company. After constructing many buildings, including the Merrie England Village, for The Century of Progress Exposition, which opened in Chicago in 1933 and remained open throughout 1934, the company incorporated in 1936 under the name of The Schless Construction Company. In 1939, the company became involved in a related venture in New York City, constructing a Merrie England Village for the New York World's Fair.

In 1942, The Schless Construction Company played a pivotal role in the development of one of the nation's important inland shipyards at Seneca, Illinois, on the banks of the Illinois River in LaSalle County. It was in this shipyard that 157 rugged, versatile LSTs (tank landing ships) were produced in response to the demand for American naval vessels to replace those that were destroyed at Pearl Harbor. The Schless Construction Company prepared the site, cutting trenches through solid sandstone for the installation of utilities and services in a shipyard that would eventually accommodate 15 ships that were 114 ft. long and weighed 285 tons each.
From shipyard building to ship building, in 1943 the company took over the operation of the Dachel Carter Shipbuilding Company in Benton Harbor, Michigan, at the request of the U.S. Navy. This work continued until the end of World War II.

Following the war, The Schless Construction Company was involved in residential construction projects in Cook and DuPage counties. As soldiers returned home from overseas and the nation enjoyed a period of growth and prosperity, the focus was on building schools, churches, factories and apartment complexes.

In the 1950s and 1960s, construction projects involved commercial buildings, roads, bridges, and sewage treatment plants. Following the death of his father in 1955, Robert M. Schless assumed control of the company. The company's office was relocated to St. Charles in Kane County, Illinois, and R. Alan Gray came on board.

The Schless Construction Company was one of the primary contractors responsible for the construction of Fermilab (Fermi National Accelerator Laboratory), originally named the National Accelerator Laboratory when the U.S. Atomic Energy Commission commissioned it in 1967. The Schless Construction Company built many of the buildings and structures including the first on site structure – the linear accelerator and a portion of the main ring used to conduct basic research into particle physics.

The Schless Construction Company continued to grow and prosper, taking on heavy construction projects related to land and water. In 1975, the construction firm reorganized and incorporated as Illinois Constructors Corp.

During the past 30 years, Illinois Constructors Corp. has completed major construction projects in the Chicago area including a reconstruction of the Dan Ryan Expressway from Congress Parkway to Taylor Street, bridge work for the Illinois Department of Transportation, lock shutdowns and repairs on the Illinois and Mississippi rivers for the U.S. Army Corps of Engineers, railroad projects, Lake Michigan shoreline revetment reconstruction at Chicago's Montrose Harbor, and bascule bridge work on the Des Plaines River.

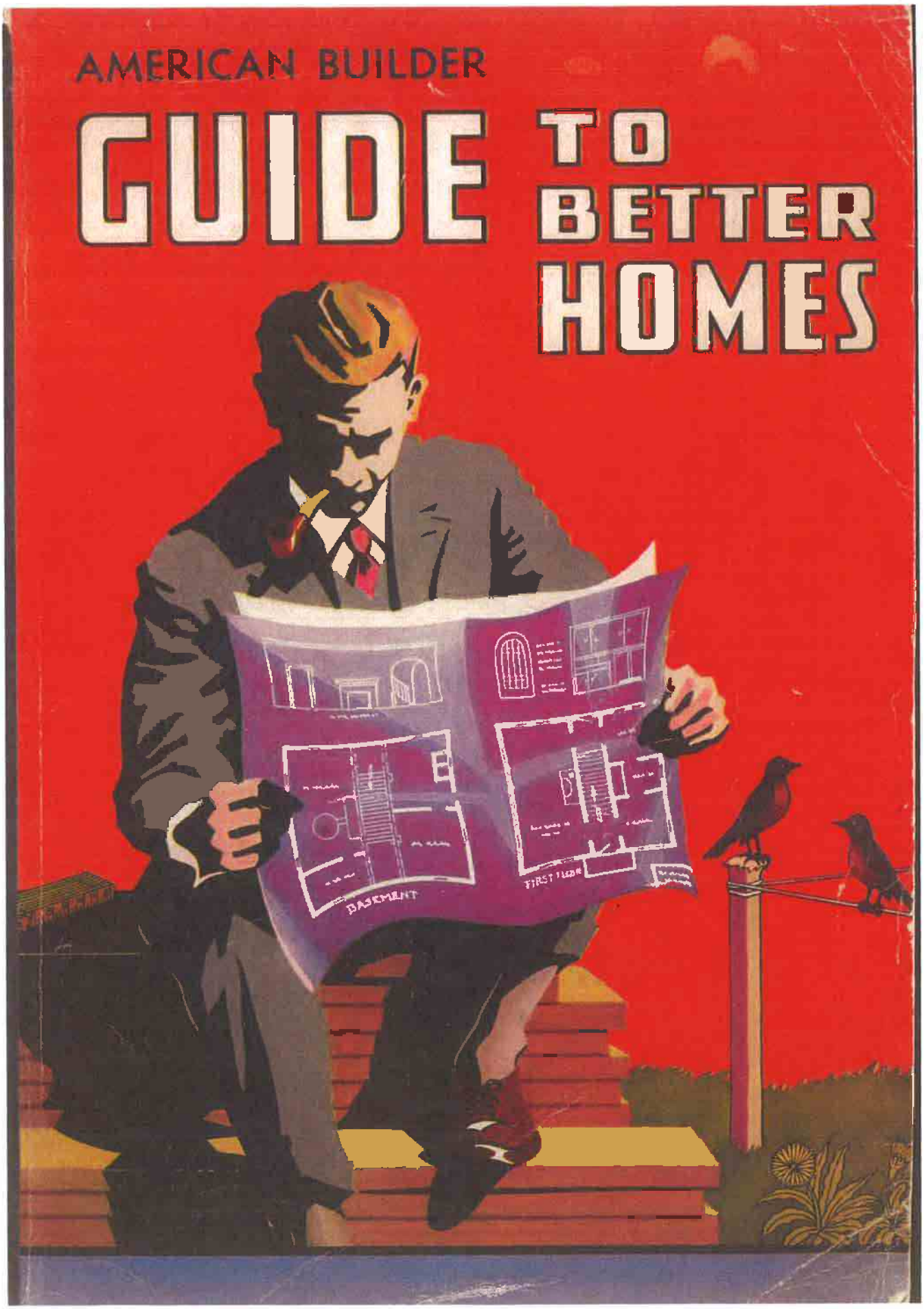
Illinois Constructors Corp. is well positioned to meet the challenges of the twenty-first century. In 2003, John Mackanin was appointed President of the firm, and in early 2004, he oversaw the purchase of a majority of the company through an Employee Stock Ownership Program (ESOP). Mackanin plans to lead the company through steady, responsible, manageable growth and his goal of adding well-trained construction professionals to the management staff will contribute to Illinois Constructors Corp.'s continuing success and ongoing commitment to excellence.

Place: Chicago Area

Description: History of Schless Construction Company (now known as Illinois Constructors Corp), founded by Jacob T 'Jack' Schless

AMERICAN BUILDER

GUIDE TO BETTER HOMES



BUILT ON A SLOPING SITE

at Downers Grove, Ill., as Model Home

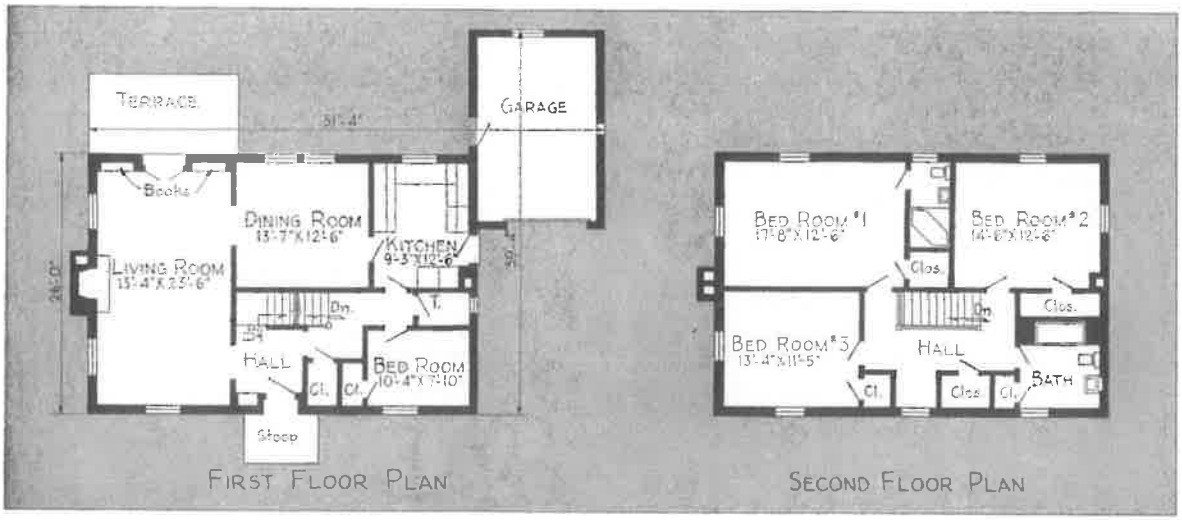
J. T. Schless Construction Co., Builders, Chicago

Robert H. Salisbury, Architect, Wheaton, Ill.

COST KEY (without garage or terrace) 1.735-129-1006-42-24-14.

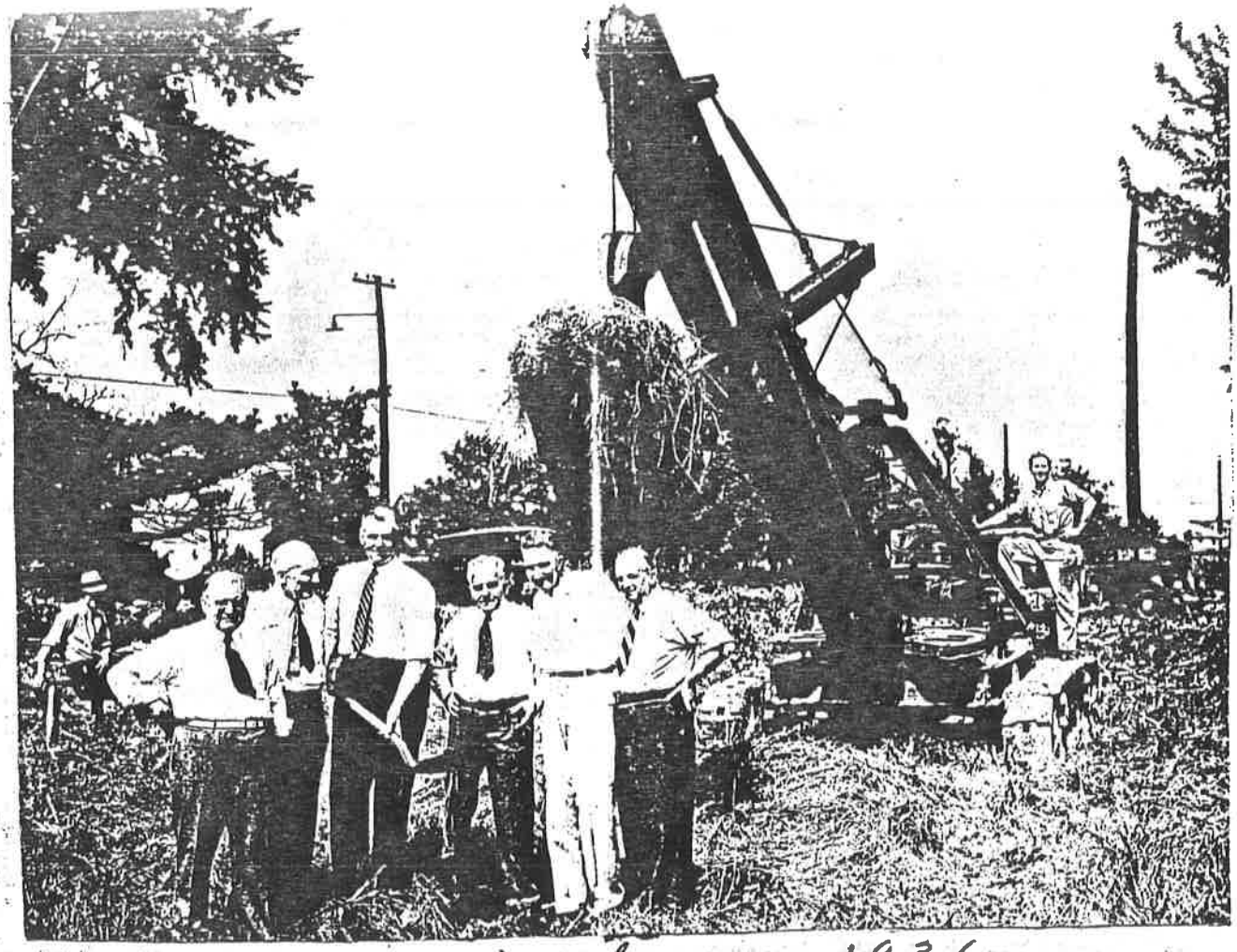
LEFT, construction view of Downers Grove Model Home as seen from right side. Above, other end of house showing manner in which garage and terrace are placed to take advantage of sloping site with motor entrance from the rear. Plans to right indicate another position for a level plot.

THE FLOOR plan below gives an alternate arrangement of the terrace and garage where the location does not allow the garage to be placed at basement level with terrace above as seen on the opposite page —otherwise the room layout is the same. Living room has plenty of light and allows for good furniture grouping with attractive fireplace (illustrated above) as the center of interest. Built-in book shelves flank the doors leading to the terrace. A small maid's or guest room with convenient toilet occupies a first floor corner off the rear hall. On the second floor are three good sized bedrooms with easy access to baths and ample closet space. Considering the size of the house, the plan is compact and has a minimum of waste space. Equipment includes a G-E year 'round conditioning system and complete electric kitchen.



FIRST FLOOR PLAN

SECOND FLOOR PLAN



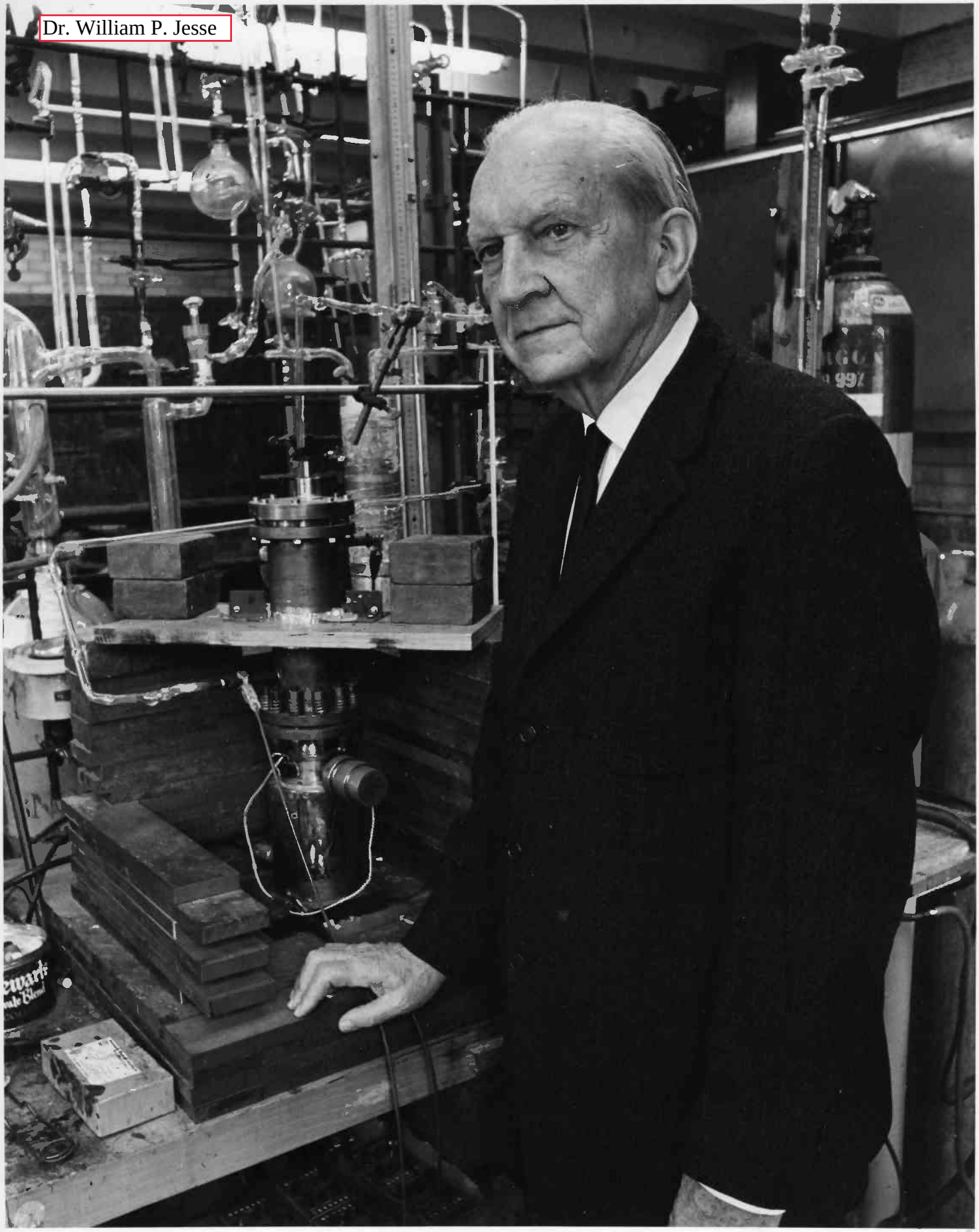
1324 Maple 1936
Bob Salisbury Breaking ground

Same as above
Carroll Sudler F. H. A. Dist. Dir.
Mayor Dicke Downers Grove
R. Cooper Jr.
M. Friedman

Jack 2 Bobby 3 4 5

(1)


Dr. William P. Jesse


Dr. William P. Jesse

for the July 1974 Radiation Research
Any comments?
Jim

739-7711

Tributes to W. P. Jesse
I. Biographical Sketch

James C. Person Q406
Argonne National Laboratory, Argonne, Illinois 60439

William Polk Jesse was born on March 19, 1891 in New Orleans during the period when his father, R. H. Jesse, was leaving a position as Professor of Latin at Tulane University to become President of the University of Missouri. This addition to the Jesse household has been true to his family tradition of love of learning and dedicated service.

W. P. Jesse graduated from the University of Missouri in 1913 with the degree of Mechanical Engineer, but in 1915 he returned to Missouri and began work on an advanced degree in physics. This work was interrupted by World War I, and when he resumed graduate work in 1919 it was at the University of Chicago under Professor R. A. Millikan. In 1921 he became an instructor at Yale University where he received his Ph.D. in 1924.

After three years as an assistant professor at Lehigh University, Dr. Jesse spent two inspiring years (1927–1929) working in London with Sir William Bragg at the Davy-Faraday Laboratory of the Royal Institute. He then worked for the General Electric Company for five years, during which time he married. In 1934 he returned to the University of Chicago, where he joined the cosmic-ray group assembled by Professor A. H. Compton, and later he transferred to the Metallurgical Laboratory for the Manhattan Project work during World War II. These years are described by one of his colleagues, Dr. E. O. Wollan, in the following article.

After the war, Dr. Jesse joined Argonne National Laboratory and began making accurate measurements of W, the energy required to produce an ion pair. One major result was the Jesse effect; the period of this discovery is described below by Dr. R. E. Meyerott, who played an important role in suggesting a possible mechanism for this effect. Dr. Jesse also became closely associated with Dr. R. L. Platzman during this period, and the benefits of this interaction are described in the paper by Dr. M. Inokuti.

After his "retirement" from Argonne in 1956, Dr. Jesse continued his research nearby at Illinois Benedictine College. This period is described by Dr. J. J. Spokas, Director of the Physical Sciences Laboratory there.

We have now held a conference in honor of Dr. Jesse and his work. We enjoyed his presence and his comments throughout the day — especially his remarks at the banquet, where he gave some additional background on the discovery of the Jesse effect.

II. A Man and His Career

E. O. Wollan
Oak Ridge National Laboratory, Oak Ridge, Tennessee 37830

It is indeed a pleasure for me to have this opportunity to pay my respects to my former colleague and close friend, William P. Jesse.

His early research was in the field of x-ray scattering which was done at the General Electric Laboratory and at the University of Chicago.

Later in the 1930's he became involved in a program of high-altitude cosmic studies under the sponsorship of A. H. Compton. This was a team effort involving Marcel Schein and myself. I am sure Jesse will agree that these were exciting years. They were years of peace which unfortunately were to be ended in that decade. But in that decade we had many great developments and discoveries: the neutron, the Dirac hole theory, the Yukawa meson theory of nuclear forces, the positron and the μ meson observed in cosmic rays, and many others not least of which was of the nature and origin of cosmic rays and the related beginnings of the studies of very high energy nuclear physics.

The discovery of a radiation from outer space had occurred much earlier. V. F. Hess convincingly showed the existence of such radiations in his balloon flights in 1912. We might think of these as the forerunners of manned research in space although these flights went to altitudes of only 5 km.

Research in cosmic rays continued to be pursued in many ways—measurements in deep mines, on mountain peaks, at many sites around the world.

These results gave us the first suggestion of a latitude effect on the intensity as observed by J. Clay, and the subject was vigorously pursued later by A. H. Compton and his collaborators in a world-wide survey.

Let me now outline briefly some of the details of the cosmic ray experiments which were carried out by Jesse and his colleagues in the period 1938-1941.

Earlier experiments by Millikan and collaborators and by others gave a measure of the total ionization of cosmic rays as a function of altitude. These experiments showed a strong increase of intensity up to about 15 km after which the intensity decreased sharply.

The later program of the Chicago group was then addressed to the question of the nature of the penetrating component in the atmosphere and of the primary radiation. To accomplish this, coincidence counter techniques and several centimeters of lead shielding were required. The apparatus became heavy ($\sim$ 35 lb) and twenty or more weather-type balloons were needed to carry the equipment to high altitudes. The record of the coincidences and the barometric pressure were made on a small clock-driven film strip. The flights were sent up in the morning; they remained at high altitude (up to 20 km) for four to five hours and finally returned to earth at nightfall. Some of the drama of these experiments was in the retrieval of the equipment. The percent retrieval was very high in spite of the large area over which the equipment was observed to descend to the ground by local people who reported their location. From Chicago this included Canada, Pennsylvania, Kentucky, and unfortunately one in Lake Michigan. Flights were carried out also in Waco, Texas and in Brazil.

The results of these experiments can be briefly stated at follows: (a) the penetrating (meson) component increases up to altitudes near the maximum reached and then falls off. When its short lifetime is considered, the meson component must be secondary radiation produced in the atmosphere, (b) with evidence that the incoming particles must be primarily positively charged (T. H. Johnson) it was concluded that they consist mostly of protons. Later work has shown that not only protons but many other nuclear particles are present in the primary cosmic radiation.

Thus, Jesse played an important part in some experiments in the "stratosphere" before the Space Age.

But "at this point in time" (1941) we were about to be drawn into a terrible war and Jesse was brought into the Manhattan Project at Chicago, where research was to do what needed to be done. The hands of Jesse and others became dirty with graphite and uranium oxide in the task of helping in a small way to accomplish what Fermi and many others had set themselves to do. But you all know that story and the many changes that the world has seen since then.

But the search for truths still goes on and Jesse is an outstanding example of a man whose interests in that search has never ceased. His pioneering work in ionization phenomena in gases which is the primary subject of this conference is an important part of his long and fruitful career. His dedication to scientific research is an inspiration to all of us.

III. An Anecdote

Roland E. Meyerott
27100 Elena Road, Los Altos Hills, California 94022

When I first joined Argonne National Laboratory in 1949, I was given a tour of the laboratory. There I was shown the "latest" in physics research equipment, linear accelerators, reactors, etc. In the middle of all this modern nuclear-physics research I met Dr. William Jesse. He was perched on a laboratory stool in front of some rather "old-fashioned" equipment repeating an "old-fashioned" experiment. He was in a very troubled mood and complained bitterly that he was unable to obtain the "old-fashioned" answer. The experiment was the measurement of the energy to produce an ion pair in gasses. Dr. Jesse was working with helium gas and had taken care to remove all impurities. As a consequence, his result was 30% higher than the then accepted value. The result seemed hard to accept, since the effect of impurities in helium on the value of the energy to produce an ion pair had previously been investigated, and, in the impurity range from 1% to 10%, the effect was slight.

I provided a sympathetic ear to Dr. Jesse's complaints, since I had just finished some other work indicating extreme sensitivity to parts per million impurity in helium. In Jesse's experiment, parts per million impurity allowed for conversion of helium metastable atoms to impurity ionization. All previous experiments started with impurity levels so high that complete conversion had already taken place. Dr. Jesse extended his experiment to other gasses, and

was able to demonstrate the importance of conversion of the metastable energy to impurity ionization. By selecting a gas combination with impurity ionization potential above or below the metastable level of the principal constituent of the mixture, Dr. Jesse was able to conclusively demonstrate the role of metastable levels.

These experiments stimulated much of the theoretical work of Dr. Robert Platzman, a frequent visitor to Argonne at that time. The constant collaboration between Dr. Jesse and Dr. Platzman led to a greatly improved understanding of this rather complicated physical process.

IV. The Days at Illinois Benedictine College

John J. Spokas
Physical Sciences Laboratory
Illinois Benedictine College, Lisle, Illinois 60523

Dr. Jesse formally began his association with St. Procopius College, now known as Illinois Benedictine College, on April 1, 1956, upon his retirement from Argonne National Laboratory. He continued in full-time research in the Physical Sciences Laboratory until August 31, 1972. He and Francis R. Shonka, the director and founder, constituted the scientific staff of the laboratory and received support from the Atomic Energy Commission throughout this period. At Illinois Benedictine College Dr. Jesse's work dealt generally with ionization phenomena in gases and represented a continuation of his research efforts at Argonne National Laboratory.

The first work at Illinois Benedictine was concerned with the accurate determination of W for beta particles for air and other gases. Up to this time reliable values did not exist. Measurements were made using the beta particles from sulphur-35 and gave excellent support to several other independent determinations completed about the same time.

Attention was next focused on the precision determination of W for alpha particles for air and N_2. Polonium alphas were used in a new method designed to eliminate recombination effects. The new values agreed beautifully with others obtained a little later by a group at the National Bureau of Standards who used an entirely different method. Thus, for the first time, truly dependable

values of W for alphas were available for air and N_2.

The variation of W with alpha energy in polyatomic gases was the object of some study. This investigation showed that, while W is the same for alphas and betas for all energies considered in H_2 and the noble gases, W for alphas shows a puzzling increase with decreasing energy in polyatomic gases.

A new isotope effect which had been proposed by R. L. Platzman led to an extended series of experiments in various hydrocarbon gases in which deuterium has been partially or completely substituted for the hydrogen. The experiments showed unquestionably that greater ionization results when deuterium is substituted for hydrogen.

Dr. Jesse devoted the last several years of his full-time work to researches dealing with the challenging problem of ionization in gases at elevated temperatures. To this end, a special ionization chamber had to be devised. The success of this effort is manifested in the W values that were determined for mercury vapor, water vapor, and in the very interesting results obtained in mixtures of mercury vapor in argon. As expected, enhanced ionization results when mercury is added to argon. However, the dependence of the excess ionization on the pressures of the host and the impurity gases is distinctly different from what had been found earlier in the case of many different contaminants in helium.

My introduction to Dr. Jesse occurred in the fall of 1961 when I joined the Physics Faculty at Illinois Benedictine College. Following the death of Francis Shonka in October, 1970, I was re-assigned to the Physical Sciences Laboratory to continue the research program. I have since had the opportunity to work closely with Dr. Jesse and to learn somewhat the manner of person and scientist he is. My one real regret is that I had failed

to get acquainted with Dr. Jesse during the nine previous years while we worked in the same building.

The success we may have had in assuming the research program in the area of special plastics and techniques applied to various problems in radiation dosimetry is in a large measure a credit to the wise counsel and the inspiration Dr. Jesse gave us.

As a scientist, Dr. Jesse has shown a unique combination of insight and dedication. He remains with a problem until it has been complete. He never leaves a job half finished. His insight is manifested by the many important problems he chose to pursue, problems which were within the available resources and yet were rich in scientific value.

The characteristic of Dr. Jesse's scientific approach which perhaps stands out most in our mind is the degree to which he would remain with a particular problem. He was so disciplined as to not allow himself to be distracted by other seemingly more exciting research, at least not until the job at hand had been satisfactorily completed. This is a characteristic that many of us would do well to emulate. I know that by his excellent example, Dr. Jesse has made me personally more conscious of the importance of concentrating on just a few problems at a time in order to ultimately attain a deeper understanding and thus to advance man's knowledge.

One quickly discovers that Dr. Jesse is a thoroughly balanced individual which unquestionably has contributed to his scientific achievements. He has many interests outside science, of which perhaps the strongest are painting

and gardening. One soon learns that he is well read, being acquainted not only with the great classics of literature and poetry, but also nursery rhymes. In this regard, one cannot forget the flawless recitation he recently gave during lunchtime of "A Frog Who Would a'Wooing Go."

What we admire most in Dr. Jesse is that he is first a complete gentleman, always concerned with the feelings of others, and ready to offer what assistance he might. In a social setting, he relates anecdotes and stories from his personal experiences with a certain zest that makes it both interesting and enjoyable to listen, and everyone does. This, combined with his keen wit and sense of humor, gives him a unique charm and makes it ever so delightful to be in his company.

United States of America

WAR DEPARTMENT

ARMY SERVICE FORCES ~ CORPS OF ENGINEERS

Manhattan District

This is to certify that

WILLIAM P. JESSE
University of Chicago

has participated in work essential to the production of the Atomic Bomb, thereby contributing to the successful conclusion of World War II. This certificate is awarded in appreciation of effective service.

6 August 1945

Henry L. Stimson
Secretary of War

Washington, D. C.

CITATION

WILLIAM POLK JESSE, graduate of the College of Engineering of the University of Missouri and an outstanding leader in science. After teaching two years in the Department of Physics at the University of Missouri, you continued study and research in physics at six great scientific laboratories and reported the results of your research in more than 50 articles in scientific publications. Your pioneering work in ionization of gases and in cosmic rays led eventually to your assignment as Chief of the Instrument Section of the Metallurgical Laboratory in the Manhattan Project. You served with the Atomic Energy Commission and have been called upon for expert scientific advice on numerous occasions.

We take great pride in honoring you today as a University of Missouri engineering graduate who vigorously pursued a lifetime program of scientific work which resulted in many significant contributions to the advancement of science and its applications.

Reporter Wednesday

Lifestyles

Century of Progress HOUSE

It's still the American dream

"This architectural competition will enable the public to get a new vision of what an inexpensive home can be like in the new era of our national development."
— Gerard Swope, president, General Electric

By Esther Mears

It was 1933, and something akin to a small miracle was shaping up in the city of broad shoulders - Chicago. The Chicago exposition's board of control called it, "A Century of Progress Exposition."

They would spend almost $5 million, literally thumbing their noses at the country's worst depression.

The exposition site was built on reclaimed ground in downtown Chicago along the lake, covering 427 acres. In the genre of world's fairs, it would be unlike anything anyone had ever seen before. The architecture and lighting were radical in design, upholding the Expo theme - a glimpse of the future and of the marvels of science yet undreamed.

All in all, it took over 100,000 Chicago workers to create and operate this incredible economic venture in a deeply depressed environment.

Close to 49 million people came to visit the fabulous Hall of Science. It contained exhibits of mathematics, physics, chemistry, biology, geology and medical science. From the 4 corners of America they came; factory workers who wanted to see what industry was up to; boys from the wheat fields out Kansas way who couldn't wait to get a close look at sexy Sally Rand of the fluttering fans; school kids from science classes in the cities and small towns; housewives who wanted to see what science had to offer them in labor saving devices. Altogether, they paid over $37 million just to get in.

All across a depression-stricken land, people heard about what they might hope for in the imminent future - "Better living through science." There would be year-round air-conditioning, centrally controlled heating, electric home laundries, the all electric kitchen with an electric "ice box" and a machine that would really do the dishes.

There were so many new things to spark the imagination - a better world to live in tomorrow with more time for relaxation and enjoyment of life.

The big corporations were in on it, too - sparked by the remarkable popularity of the Expo.

General Electric in cooperation with the Federal Housing Administration sponsored a nationwide architectural competition to design homes using new scientific principles to solve the problems of contemporary housing.

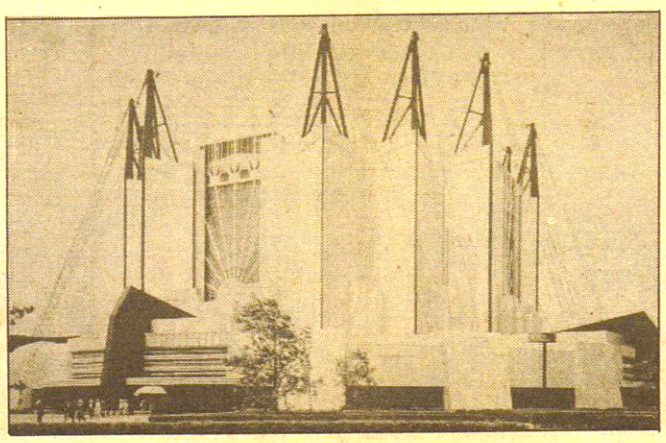
MEMORIES — "That's it," said David Kresl, when he first saw the historic old house at 1324 Maple, recounts Joan Kresl, pictured in front of the home that was their dream home and still is today.

According to Gerard Swope, president of General Electric, the national competition among architects for design of small homes would provide the ultimate in convenience and livability.

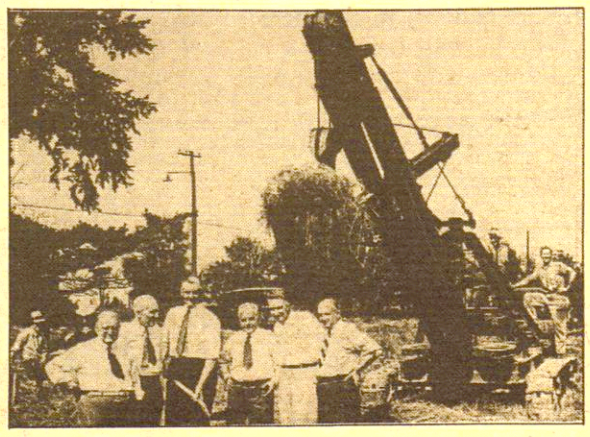
"This competition will enable the public to get a new vision of what an inexpensive home can be like in the new era of our national development .... science has made great strides in home electrification, even through the depression years. There is no longer need for a homemaker to tire herself out with household labor. Most of it can be done more simply and efficiently and less expensively by electrical servants. Washing, ironing, sweeping, cooking and washing of

(Continued on next page)

SPIFFY UNIFORMED CASHIERS — Mary Partridge Albright of Downers Grove, first row, far left, poses with the Century of Progress cashiers and staff for Dist. 6 in 1934.



FAR-OUT ARCHITECTURE — The Travel and Transport Building was just one of the stunning, radically designed buildings built expressly for the Century of Progress Exposition.



NEW HOME — Breaking ground in 1936 are Downers Grove Mayor Henry Diecke; Bob Salisbury, architect; Mr. Schless, builder; R. Cooper Jr.; and Mr. Fridstein of R. Cooper Jr. Electric.

Century of Progress hopes reflected in dream house

(Continued from previous page)

dishes can be done electrically at little cost. Great improvements have taken place in home lighting. The toilsome, troublesome heating problem can be solved and 'air conditioning' has arrived to make the home healthier, cleaner and more comfortable in the years ahead," said Swope.

General Electric would put its money where its mouth was. A memorandum from the "General Electric Review" (vol. 38, 1935) pointed to imminent labor saving and more comfortable homes for the working classes at affordable prices - the new American dream homes.

According to the Review: "A housing program of unprecedented sweep and ambition designed to produce one new home for each 100,000 of population throughout the country by Sept. 1, 1935 has been launched by the General Electric Co. The general plan is to offer selected builders new ideas, prize-winning drawings, substantial discounts and terms on electrical equipment and national advertising and support, all in consideration of the construction by the builders of demonstration-style houses. The company is already assured of the cooperation of the FHA and of numerous builders, publishers, and banks, which are anxious to help. The houses are to be opened this fall (1935) to the public during the months of September and October."

The location of the Chicago area "new American homes" were: Brookbank and Maple (1324 Maple ave.in Downers Grove); 3 homes on President and Ohio sts., Wheaton; 447 Greenfield in Oak Park (the national prize-winning home); 6100 N. Knox ave., Chicago (Sauganash District); and 9206 Irving ave., Beverly Hills.

Why these particular locations were selected by General Electric and the FHA is unclear.

A 1935 edition of the Downers Grove REPORTER carried a 3 column x 14 inch advertisement inserted by the Western United Gas and Electric Co. headlined: "Visit the 'New America' homes! - Brookbank and Maple." Pictured are 2 rooms featuring a laundry and kitchen, both rooms looking surprisingly modern for over 50 years ago. Caption for the kitchen picture reads: "The kitchens are designed to save steps and labor." Caption for the laundry room, "The laundries are thoroughly modern in every appointment."

The kitchen featured a refrigerator with cylinder atop and standing on legs. The room set the stage for future kitchen design with sink and built-in cabinets under an arched window treatment with built-ins (both upper and lower) above and below the sink and flanking right and left walls of the kitchen. The range stood on legs, and a desk and chair appear beside the refrigerator.

"The room set the stage for future kitchen design with sink and built-in cabinets under an arched window treatment with built-ins (both upper and lower) above and below the sink ..."

Copy for the ad read: "You will marvel when you see these prize-winning homes. Nothing has been omitted to make them an example of the highest living standards. They prove that better living has been made a science. Because they were designed from the inside out, they provide an entirely new measure of living comfort. Gas heat is used in the 'New American' homes. Full use is made of electricity's aid. Air-conditioning guards comfort and health the year 'round. Illumination is of the latest type. Every convenience appointment makes living a greater pleasure and lesser labor. Visit these 'New American' homes while they are open for inspection ... It will be an amazing experience."

It is unclear from old records exactly how many of the envisioned "New American" homes were actually built. The winds of war were blowing across Europe and war jitters in America presumably halted construction of these homes.

The current owners of the vintage home at 1324 Maple ave. in Downers Grove are David and Joan Kresl and their 4 children who purchased the home in 1976, moving here from Woodridge.

One of the early owners was the Jesse family. Dr. Jesse was a physicist who reportedly worked on the atomic bomb, according to Joan Kresl, who says she was once told by neighbors that Dr. Jesse had said his personal papers mysteriously disappeared from the house during his absence.

He was visibly upset and felt that a government agency was involved, according to the story that has since become legend. Dr. Jesse's hobby was growing old-fashioned roses and some of these bushes are still in existence on the property.

The home is still on the tax records as the "Jesse subdivision," according to Joan. The property, adjacent to Avery Coonley School, was sparsely populated when the home was built in 1936.

Curiously, the historic old house, once the dream home of thousands of people who trooped through it at the invitation of General Electric still maintains some of its dream-like qualities.

Visiting the home it is easy to recall the past. Standing in the compact end of the kitchen, one can almost hear the echoes of all the "ohs" and "ahs" of the delighted women who stood in fascinated contemplation of a future free of endless back-breaking household tasks.

The beautiful oak floors are still intact as are original ceiling moldings. The walnut fireplace looks very contemporary since the mantel is considered quite stylish today.

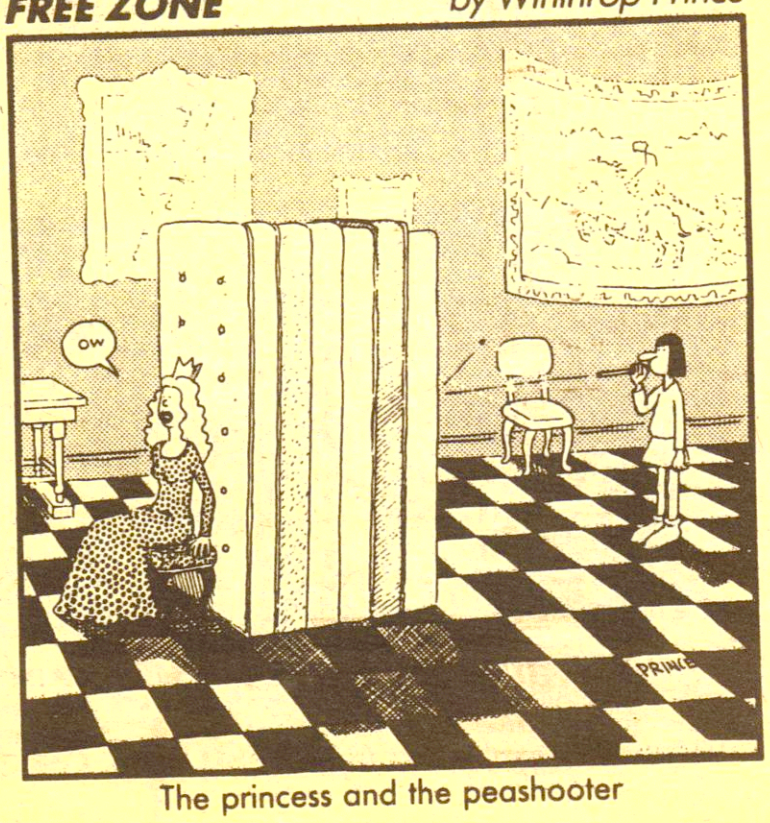
As might be expected, some modifications have taken place. The original screened-in porch has been converted to a glazed year-round porch. A modern deck has been added at the back of the house.

The now 3,300 square foot, 8 room house stands on ¾ acre of wooded land and is very comfortable living indeed (just as the forecasters of 55 years ago said it would be) with its large living room, formal dining room and delightfully cool basement rec room which is utilized every day of the year.

It's all there - just as predicted - except for one thing: the visionaries of 1935 forgot to mention the TV set in the corner of the rec room.

Dick Lund of Wheaton provided the research and material concerning the "New American" homes. He has been actively interested in these homes and has been in correspondence with the Schless Construction Co. of St. Charles who was the builder of the homes in Wheaton and Downers Grove with Robert H. Salisbury acting as the architect at that time. The General Electric dealer was R. Cooper Jr. of Chicago who was and still is a General Electric dealer.

FREE ZONE by Winthrop Prince



The princess and the peashooter

Adam by Brian Basset